DUPLICATE ALSO

METEOROLOGICAL OFFICE
11 DEC 1995
LIBRARY

UK METEOROLOGICAL OFFICE GLOBAL DATA MONITORING REPORT

Nov, 95

Data Assimilation
Meteorological Office
London Rd
Bracknell
Berkshire
RG12 2SZ

This report has not been published. Permission to quote from it should be obtained from the Head of Data Assimilation

ORGS UKMO U

National Meteorological Library
FitzRoy Road, Exeter, Devon. EX1 3PB

Distribution List

Mr B Sumner	NMC, Victoria, Australia
Dr H W Christ	Deutscher Wetterdienst, Hamburg, Germany
Mr M Engels	German Military Geophysical Office, Mont Royal, Germany.
Ms C Nelson	NMC, Washington, USA
Mr B Lacroix	SCEM METEO-FRANCE.
Mr E A Meindl	National Data Buoy Centre, Stennis Space Center, USA
Dr H Mitchell	Recherche en Prévision Numérique, Quebec, Canada.
Mr G Verner	Canadian Meteorological Centre, Quebec, Canada
Permanent Rep. with WMO	Moscow, Russia
Hydrometcentre of the Russian Federation	Moscow, Russia
Mr Nobuo Sato	JMA, Tokyo, Japan
Dr B Strauss	ECMWF, Reading, UK
Dr M J Uddstrom	Met. Service, Wellington, New Zealand
Mr R S Bell	Met. Office, Bracknell, UK
Mr J R Leighton	Met. Office, Bracknell, UK
Mr R W Lunnon	Met. Office, Bracknell, UK
Dr C C Heasman	Met. Office, Bracknell, UK
Mr D B Shaw	Met. Office, Bracknell, UK
Mr S G Smith	Met. Office, Bracknell, UK
National Meteorological Library	Met. Office, Bracknell, UK

CONTENTS

1. Introduction

2. Global Data Monitoring Statistics

3. Composite Observing Systems for the North Atlantic (COSNA)

...oooOOOooo...

1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Bracknell. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Bracknell in time for inclusion into the appropriate analysis. The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background field). Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

Comments or queries on the report are welcome and should be addressed to:-

DR C. Heasman
Head of Observation Processing and Monitoring Section
Data Assimilation
Meteorological Office
London Road
Bracknell
Berkshire
United Kingdom
RG12 2SZ

2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1-2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIBU observations received per day throughout the month at Bracknell and assimilated into model runs. Only data from the main hours of 00 UTC, 06 UTC, 12 UTC and 18 UTC are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At RSMC Bracknell, for synoptic stations at or below a height of 500 metres, reported mean sea-level pressure is used in the statistics. If this is unavailable the mean sea-level pressure is calculated from the reported station-level pressure and temperature.

For synoptic stations above 500 metres, the mean sea-level pressure is calculated from the reported station-level pressure and temperature, or, if these are not available the height of a standard pressure-level (e.g.: 850 hPa or 700 hPa). If neither of these are available, the reported mean sea-level pressure is used.

Some stations vary their reporting practice according to the observation hour (e.g.: some stations in the CIS report both mean sea-level and station-level pressure at 00 & 12 UTC, but only mean sea-level pressure at 06 & 18 UTC). For monitoring purposes, reported mean sea-level pressure is stored separately from that calculated from station-level pressure or height of a standard pressure-level. Only statistics for the preferred method (see above) are presented in this report, and so for certain high-level stations, such as those from the CIS, approximately half of the number of observations actually received will appear in the statistics.

Aircraft observations

TABLE 4 contains a list of statistics calculated from data received from all airline carriers.

Figure 3 shows 10 degree lat/long box average numbers of AIREP/ASDAR reports received per day throughout the month at Bracknell and assimilated into model runs in the layer 70-500 hPa. Observations with a vector wind difference (compared with the model background field) of >60 ms^{-1} have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Figures 4-7 show wind statistics for AIREP/ASDAR in the layer 70-500 hPa. Observations with a vector wind difference > 60 $m\ s^{-1}$ have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed ($m\ s^{-1}$)
7	RMS observation-background vector ($m\ s^{-1}$)

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Bracknell and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-27 show satellite mean observation-background temperature differences for NOAA-12 soundings at 500 km resolution and figures 28-30 show the same statistics for NOAA-14.. Data are plotted where there are > 30 observations in a 10 degree lat/long box.

Figure	Layer (hPa)
25/28	850-1000
26/29	100-300
27/30	30-50

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Bracknell during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Bracknell in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Bracknell from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics **(Geopotential Height and Windspeed at 100 and 500 hPa)** for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

...oooOOOooo...

Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for ships, fixed buoys and platforms.

Standard of comparison :Background field from Bracknell global model.

Observation times :00, 06, 12, 18 UTC

Elements monitored :Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (Degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:NGE :Number of observations with gross errors.

:PGE :Percentage of observations with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors. **N.B. a positive bias indicates the observation is veered to the background.**

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT :15 hPa (pressure)
:25 m s^{-1} (vector wind)

SELECTION CRITERIA :NOBS $\geq$ 20 , and one or more of the following:

1. |bias| $\geq$ 4 hPa (pressure),
$\geq$ 5 m s^{-1} (wind speed),
$\geq$ 30 degrees (direction).

2. SD $\geq$ 6 hPa (pressure),
$\geq$ 80 degrees (direction).

3. PGE $\geq$ 25

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
MEAN SEA LEVEL PRESSURE									
C6BO9	ALL	MSLP	SUR	21	0	0	1.2	-5.8	5.9
C6FA6	ALL	MSLP	SUR	42	0	0	1.8	-5.9	6.1
C6IL3	ALL	MSLP	SUR	33	0	0	1.3	6.7	6.8
C6JL6	ALL	MSLP	SUR	36	2	6	6.6	-4.2	7.9
C6JV4	ALL	MSLP	SUR	21	1	5	1.3	4.3	4.5
D5NE	ALL	MSLP	SUR	42	0	0	1.9	5.3	5.6
ELIU2	ALL	MSLP	SUR	24	0	0	2.0	4.4	4.8
ELNG6	ALL	MSLP	SUR	33	4	12	1.1	-13.1	13.2
LACF4	ALL	MSLP	SUR	45	0	0	1.8	-5.2	5.5
OVUN6	ALL	MSLP	SUR	120	0	0	1.3	4.4	4.6
OZBL2	ALL	MSLP	SUR	56	0	0	1.1	7.6	7.7
P3NE5	ALL	MSLP	SUR	23	0	0	4.5	4.3	6.2
P3XM4	ALL	MSLP	SUR	90	0	0	1.2	-4.6	4.7
UDYO	ALL	MSLP	SUR	27	1	4	2.3	-4.4	5.0
UKGT	ALL	MSLP	SUR	31	0	0	1.6	-11.1	11.2
USNN	ALL	MSLP	SUR	54	0	0	1.3	-5.6	5.7
VCRZ	ALL	MSLP	SUR	21	21	100	0.0	0.0	0.0
VDRV	ALL	MSLP	SUR	26	7	27	4.2	-6.5	7.8
VOXZ	ALL	MSLP	SUR	21	20	95	0.0	-7.8	7.8
VRUI9	ALL	MSLP	SUR	28	0	0	0.7	-5.0	5.1
VTXK	ALL	MSLP	SUR	21	0	0	3.6	4.2	5.6
WAQ3520	ALL	MSLP	SUR	37	3	8	1.9	-4.7	5.1
WA8463	ALL	MSLP	SUR	50	1	2	1.4	-4.0	4.2
WYP8657	ALL	MSLP	SUR	48	0	0	3.5	-4.1	5.4
YLBF	ALL	MSLP	SUR	32	0	0	0.9	5.5	5.6
ZSBK	ALL	MSLP	SUR	20	0	0	1.5	4.1	4.3
ZSPP	ALL	MSLP	SUR	39	0	0	1.0	-5.0	5.1
ZTCD	ALL	MSLP	SUR	21	0	0	3.4	-4.0	5.3
ZTFU	ALL	MSLP	SUR	20	0	0	3.2	-5.5	6.4
3EAY5	ALL	MSLP	SUR	26	0	0	1.2	-4.5	4.7
3ESE9	ALL	MSLP	SUR	50	5	10	5.1	4.5	6.8
3FTJ4	ALL	MSLP	SUR	22	0	0	1.3	5.2	5.3
45139	ALL	MSLP	SUR	21	2	10	4.7	-5.5	7.2
9MBQ6	ALL	MSLP	SUR	28	0	0	1.2	-4.4	4.5
WIND SPEED									
C6LF8	ALL	SPEED	SUR	29	0	0	3.0	-5.3	6.1
D5AN	ALL	SPEED	SUR	31	0	0	2.8	5.8	6.5
ELAC5	ALL	SPEED	SUR	30	0	0	3.0	5.0	5.8
ELKM7	ALL	SPEED	SUR	27	0	0	3.5	7.3	8.1
HPKW	ALL	SPEED	SUR	21	0	0	3.4	7.1	7.8
JNBO	ALL	SPEED	SUR	33	1	3	4.0	5.3	6.6
LATF2	ALL	SPEED	SUR	48	9	19	4.2	11.5	12.2
MSBM4	ALL	SPEED	SUR	39	4	10	7.8	8.9	11.8
OUEK	ALL	SPEED	SUR	30	1	3	5.1	6.7	8.4
SKUN	ALL	SPEED	SUR	36	1	3	6.7	6.3	9.2
WQVY	ALL	SPEED	SUR	24	0	0	3.8	5.0	6.3
3EET9	ALL	SPEED	SUR	38	0	0	4.9	5.0	7.0
3EUO6	ALL	SPEED	SUR	21	0	0	5.2	5.3	7.5
WIND DIRECTION									
ELOI6	ALL	DIRN.	SUR	40	0	0	58.5	-40.1	70.9
45142	ALL	DIRN.	SUR	46	0	0	46.6	32.2	56.6
46027	ALL	DIRN.	SUR	55	0	0	26.0	-44.5	51.5
46146	ALL	DIRN.	SUR	66	0	0	55.4	-41.2	69.0
46147	ALL	DIRN.	SUR	107	1	1	64.0	-57.9	86.3
46181	ALL	DIRN.	SUR	66	0	0	55.0	-46.0	71.7
51006	ALL	DIRN.	SUR	50	0	0	88.7	11.8	89.4
52320	ALL	DIRN.	SUR	23	0	0	34.1	-39.0	51.8

AVAILABILITY – SHIP/SYNOP – NOVEMBER 1995

FIGURE 1

MAIN HOURS ONLY

10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS

TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS = 19371

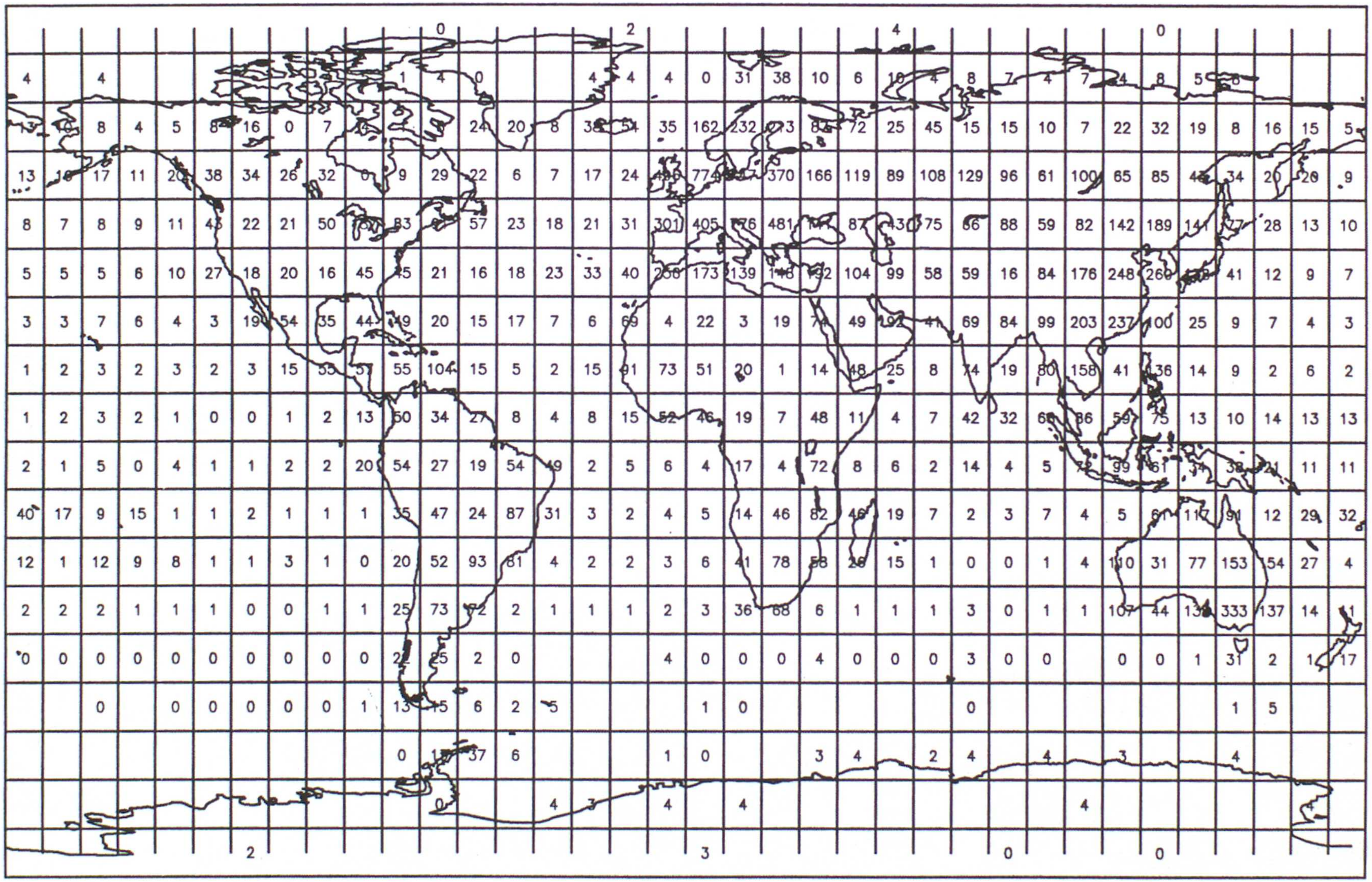

0 2 4 0
4 4 1 4 0 4 4 4 0 31 38 10 6 10 4 8 7 4 7 24 8 5 6
13 16 8 4 5 8 16 0 7 14 6 24 20 8 38 54 35 162 232 273 86 72 25 45 15 15 10 7 22 32 19 8 16 15 5
13 16 17 11 20 38 34 26 32 0 9 29 22 6 7 17 24 486 774 837 370 166 119 89 108 129 96 61 100 65 85 43 34 20 26 9
8 7 8 9 11 43 22 21 50 180 83 67 57 23 18 21 31 301 405 176 481 147 87 43 75 66 88 59 82 142 189 141 77 28 13 10
5 5 5 6 10 27 18 20 16 45 45 21 16 18 23 33 40 256 173 139 148 192 104 99 58 59 16 84 176 248 260 128 41 12 9 7
3 3 7 6 4 3 19 54 35 44 49 20 15 17 7 6 69 4 22 3 19 74 49 192 41 69 84 99 203 237 100 25 9 7 4 3
1 2 3 2 3 2 3 15 33 57 55 104 15 5 2 15 91 73 51 20 1 14 48 25 8 74 19 80 158 41 136 14 9 2 6 2
1 2 3 2 1 0 0 1 2 13 50 34 27 8 4 8 15 52 46 19 7 48 11 4 7 42 32 68 86 59 75 13 10 14 13 13
2 1 5 0 4 1 1 2 2 20 54 27 19 54 49 2 5 6 4 17 4 72 8 6 2 14 4 5 72 99 61 34 38 21 11 11
40 17 9 15 1 1 2 1 1 1 35 47 24 87 31 3 2 4 5 14 46 82 46 19 7 2 3 7 4 5 61 117 91 12 29 32
12 1 12 9 8 1 1 3 1 0 20 52 93 81 4 2 2 3 6 41 78 58 28 15 1 0 0 1 4 110 31 77 153 154 27 4
2 2 2 1 1 1 0 0 1 1 25 73 72 2 1 1 1 2 3 36 68 6 1 1 1 3 0 1 1 107 44 138 333 137 14 11
0 0 0 0 0 0 0 0 0 0 22 25 2 0 4 0 0 0 4 0 0 0 3 0 0 0 0 1 31 2 1 17
0 0 0 0 0 0 1 13 15 6 2 5 1 0 0 1 5
0 13 37 6 1 0 3 4 2 4 4 3 4
0 4 3 4 4 4 4
2 3 0 0

TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for drifting buoys.

Standard of comparison :Background field from Bracknell global model.

Position :Average latitude and longitude for period.

Observation times :00, 06, 12, 18 UTC

Elements monitored
:Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:NGE :Number of observations with gross errors.

:PGE :Percentage of observations with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT
:15 hPa (pressure)
:25 m s^{-1} (vector wind)

SELECTION CRITERIA :NOBS $\geq$ 20 , and one or more of the following:

1.|bias| $\geq$ 4 hPa (pressure),
$\geq$ 5 m s^{-1} (wind speed),
$\geq$ 30 degrees (direction).

2.SD $\geq$ 6 hPa (pressure),
$\geq$ 80 degrees (direction).

3.PGE $\geq$ 25.

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
MEAN SEA LEVEL PRESSURE											
12528	31.5	29.8	ALL	MSLP	SUR	45	0	0	0.9	-11.0	11.0
17604	-26.8	1.7	ALL	MSLP	SUR	194	194	100	0.0	0.0	0.0
17607	-45.4	46.0	ALL	MSLP	SUR	646	67	10	6.7	1.2	6.8
21575	47.9	165.4	ALL	MSLP	SUR	93	28	30	5.7	-6.1	8.3
33535	-39.4	29.6	ALL	MSLP	SUR	288	27	9	3.3	6.8	7.6
33540	-44.2	19.2	ALL	MSLP	SUR	642	69	11	6.6	4.4	7.9
33949	-48.2	-52.5	ALL	MSLP	SUR	285	2	1	2.5	-5.3	5.9
44764	66.7	12.6	ALL	MSLP	SUR	60	60	100	0.0	0.0	0.0
47531	73.9	-76.3	ALL	MSLP	SUR	315	315	100	0.0	0.0	0.0
48558	78.0	-151.4	ALL	MSLP	SUR	349	349	100	0.0	0.0	0.0
56915	-40.2	90.2	ALL	MSLP	SUR	268	10	4	3.8	4.4	5.8
73508	-61.3	119.1	ALL	MSLP	SUR	171	2	1	3.5	5.9	6.9
WIND SPEED											
44616	56.3	-28.1	ALL	SPEED	SUR	453	0	0	4.0	-9.0	9.9
46558	39.1	-151.9	ALL	SPEED	SUR	48	0	0	1.6	-7.7	7.8
52540	33.7	142.0	ALL	SPEED	SUR	244	0	0	3.5	-5.9	6.9
WIND DIRECTION											
22520	37.0	135.9	ALL	DIRN.	SUR	168	0	0	73.7	90.0	116.3
22521	37.0	134.1	ALL	DIRN.	SUR	252	0	0	43.3	90.4	100.3
44616	56.3	-28.1	ALL	DIRN.	SUR	379	0	0	89.6	-24.6	92.9
46558	39.1	-151.9	ALL	DIRN.	SUR	48	0	0	22.0	-33.1	39.8
52652	17.0	129.2	ALL	DIRN.	SUR	262	0	0	28.9	-31.8	43.0
52653	14.7	126.1	ALL	DIRN.	SUR	227	0	0	32.1	-49.9	59.3
52656	7.3	151.6	ALL	DIRN.	SUR	54	0	0	35.0	-45.4	57.3

AVAILABILITY – DRIBU – NOVEMBER 1995

MAIN HOURS ONLY

10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS

TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS = 5061

FIGURE 2

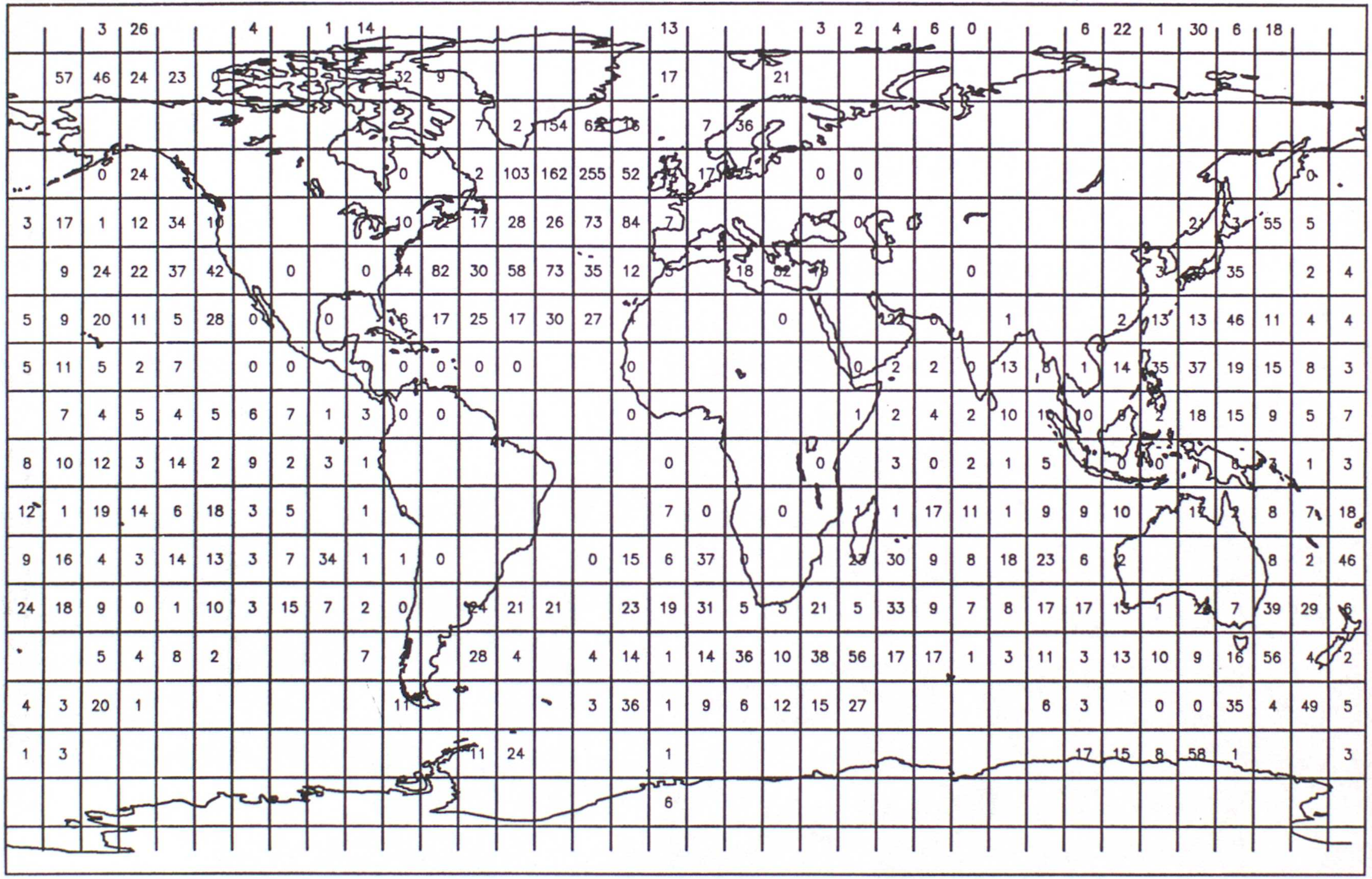

3 26 4 1 14 13 3 2 4 6 0 6 22 1 30 6 18
57 46 24 23 0 32 9 17 21
7 2 154 63 16 7 36
0 24 0 2 103 162 255 52 17 0 0 0
3 17 1 12 34 10 10 72 17 28 26 73 84 7 0 21 3 55 5
9 24 22 37 42 0 0 14 82 30 58 73 35 12 5 18 82 49 0 3 29 35 2 4
5 9 20 11 5 28 0 0 6 17 25 17 30 27 4 0 12 0 1 2 13 13 46 11 4 4
5 11 5 2 7 0 0 0 0 0 0 0 0 0 2 2 0 13 8 1 14 35 37 19 15 8 3
7 4 5 4 5 6 7 1 3 0 0 0 2 1 2 4 2 10 10 10 8 2 18 15 9 5 7
8 10 12 3 14 2 9 2 3 1 0 0 3 0 2 1 5 1 0 10 3 1 3
12 1 19 14 6 18 3 5 1 0 7 0 0 1 1 17 11 1 9 9 10 7 17 2 8 7 18
9 16 4 3 14 13 3 7 34 1 1 0 0 15 6 37 0 1 23 30 9 8 18 23 6 2 8 2 46
24 18 9 0 1 10 3 15 7 2 0 24 21 21 23 19 31 5 5 21 5 33 9 7 8 17 17 13 1 28 7 39 29 6
5 4 8 2 7 28 4 4 14 1 14 36 10 38 56 17 17 1 3 11 3 13 10 9 16 56 4 2
4 3 20 1 11 3 36 1 9 6 12 15 27 6 3 0 0 35 4 49 5
1 3 11 24 1 17 15 8 58 1 3
6

TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for synops & autosynops.

Standard of comparison :Background field from Bracknell global model.

Observation times :00, 06, 12, 18 UTC

Elements monitored :Mean sea level pressure (hPa).

Parameters monitored

:HT(m) :Station height (in metres) as given in WMO No. 9 Vol A

:RP :Pressure reporting practice
M=mean sea level pressure (hPa) reported.
S=Station level pressure reported.
8=Geopotential height (m) of 850 hPa surface reported.
7=Geopotential height (m) of 700 hPa surface reported.

:NOBS :Number of observations received excluding duplicates.

:NGE :Number of observations with gross errors.

:PGE :Percentage of observations with gross errors.

:%REJ :Percentage of observations flagged.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT :15 hPa (pressure)

SELECTION CRITERIA :NOBS ≥ 20 ,and one or more of the following:

1. |bias| ≥ 4 hPa
2. SD ≥ 6 hPa
3. PGE ≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

WMO REGION 1:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60445	36.2N	5.4E	1081	S8	107	6	6	82	1.1	4.9	5.0
60468	35.6N	6.2E	1052	S8	102	101	99	13	0.0	-3.1	3.1
60511	35.3N	1.4E	1127	S8	108	107	99	100	0.0	10.8	10.8
60535	34.7N	3.3E	1144	S8	57	6	11	89	1.2	-6.0	6.1
60571	31.6N	2.2W	773	S8	110	0	0	36	1.0	-4.2	4.3
60670	24.6N	9.5E	1054	S8	108	0	0	96	1.7	8.5	8.7
63333	11.1N	39.7E	1916	MS	72	0	0	100	0.8	7.0	7.0
63453	8.8N	39.8E	1062	S	46	1	2	100	1.3	12.4	12.5
63478	5.1N	44.6E	320	MS	43	0	0	0	1.5	7.1	7.3
67687	15.8S	35.0E	1141	S	26	0	0	46	1.7	4.3	4.6
68014	19.6S	18.1E	1411	S8	83	0	0	33	1.9	-4.8	5.2
68396	26.5S	31.3E	641	S8	53	0	0	53	1.3	4.1	4.3
68442	29.1S	26.3E	1354	S8	110	1	1	95	1.2	-5.8	5.9
68752	32.8S	27.4E	524	S8	64	0	0	98	1.5	-7.7	7.8

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
24382	66.4N	143.2E	196	MS	59	0	0	10	2.7	4.2	5.0
24671	63.9N	135.9E	400	M	98	4	4	79	3.2	9.5	10.0
25248	67.3N	168.2E	426	MS	48	0	0	46	3.1	5.6	6.4
29999	52.5N	99.8E	1570	S8	110	49	45	40	2.1	0.0	2.1
30554	54.5N	113.6E	995	MS	59	2	3	98	1.3	10.1	10.2
36870	43.4N	77.0E	663	MS	57	26	46	46	1.3	0.4	1.4
40701	39.3N	44.4E	1470	MS	97	1	1	98	1.5	7.2	7.4
40710	37.9N	47.5E	-9999	M	93	0	0	52	3.4	4.4	5.6
40726	36.8N	45.7E	1385	MS	53	0	0	72	1.6	4.4	4.7
40743	36.2N	57.7E	941	MS	110	1	1	18	1.3	-4.2	4.4
40762	35.3N	59.2E	1333	MS	110	15	14	99	0.9	-13.2	13.2
40763	35.2N	58.5E	1060	MS	47	0	0	17	1.0	-4.7	4.8
40783	32.4N	49.7E	1972	MS	64	1	2	92	1.5	-6.1	6.3
40789	33.8N	55.1E	921	MS	82	2	2	99	1.1	9.0	9.1
40836	30.8N	51.7E	1880	MS	82	1	1	100	1.2	9.4	9.5
40859	29.0N	53.7E	1383	MS	84	1	1	100	1.1	10.2	10.3
41244	24.2N	55.8E	299	M	117	0	0	0	1.3	7.5	7.6
41254	23.1N	57.7E	1755	S8	87	87	100	28	0.0	0.0	0.0
41396	16.0N	48.9E	700	MS	28	0	0	100	1.4	7.7	7.8
44232	49.4N	102.7E	933	MS	96	2	2	29	1.4	-4.1	4.3
44277	46.4N	96.3E	2147	MS	105	3	3	58	1.3	-5.9	6.0
44292	47.9N	107.0E	1338	MS	97	0	0	78	1.0	5.0	5.1
44416	28.6N	81.6E	720	MS	84	4	5	40	2.0	4.3	4.7
44477	27.0N	87.4E	1445	S8	77	77	100	95	0.0	0.0	0.0
47022	40.8N	128.2E	1206	S	94	0	0	28	1.2	4.6	4.8
51334	44.6N	82.9E	321	M	118	0	0	58	2.8	7.1	7.6
51379	44.0N	89.6E	794	M	118	0	0	9	2.4	4.3	4.9
51495	43.5N	91.6E	874	M	118	0	0	3	2.3	4.0	4.6
51818	37.6N	78.3E	1376	M	118	0	0	19	2.4	5.4	5.9
52378	41.4N	102.4E	960	M	118	0	0	22	2.3	5.2	5.7
52602	38.8N	93.4E	2734	S	116	0	0	10	1.8	-4.5	4.8
53083	44.6N	114.2E	1183	M	118	0	0	41	2.8	4.6	5.4
53352	41.7N	110.4E	1377	M	116	0	0	35	2.7	4.9	5.6
53480	41.0N	113.1E	1416	M	116	0	0	16	2.7	4.0	4.8
53487	40.1N	113.3E	1069	M	118	0	0	4	2.6	4.1	4.9
53502	39.8N	105.8E	1033	M	118	0	0	36	2.7	5.0	5.7
53705	37.5N	105.7E	1185	M	117	0	0	5	2.4	5.0	5.5
54386	41.4N	128.2E	1018	M	117	0	0	24	3.0	5.2	6.0
56287	30.0N	103.0E	629	M	118	0	0	22	1.5	4.6	4.8
56444	28.5N	98.9E	3488	S	105	105	100	100	0.0	0.0	0.0

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
56462	29.0N	101.5E	2994	S	107	0	0	94	2.2	8.0	8.3
57006	34.6N	105.8E	1143	M	118	0	0	2	2.4	5.2	5.7

WMO REGION 3:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80099	7.1N	70.7W	128	M	37	0	0	5	1.8	-5.9	6.2
82392	3.7S	40.4W	83	MS	23	0	0	74	5.7	-6.3	8.5
82704	7.6S	72.7W	170	MS	63	0	0	0	2.1	-4.8	5.2
82825	8.8S	63.1W	95	MS	54	0	0	0	1.7	-4.4	4.7
83214	10.3S	54.9W	285	MS	25	0	0	0	2.1	-5.9	6.3
83235	12.3S	46.4W	660	MS	48	1	2	96	1.1	6.7	6.8
83295	13.4S	39.9W	755	MS	36	0	0	75	0.7	-4.4	4.5
83319	14.7S	52.4W	315	MS	32	0	0	0	1.4	-4.6	4.8
83332	14.1S	46.4W	950	MS	45	15	33	100	0.9	13.7	13.7
83408	14.3S	43.8W	556	MS	52	0	0	100	1.5	11.3	11.4
83423	16.7S	49.3W	729	MS	48	0	0	54	1.8	-5.3	5.6
83488	17.8S	42.9W	1097	MS	49	49	100	100	0.0	0.0	0.0
83531	18.6S	46.5W	896	MS	50	1	2	70	1.5	-6.7	6.9
83587	19.8S	43.9W	850	MS	70	2	3	96	1.8	-7.6	7.8
83689	21.3S	43.8W	1171	MS	43	1	2	86	1.4	5.2	5.4
83704	22.3S	53.9W	369	MS	46	0	0	72	4.9	-6.0	7.7
84455	6.5S	76.4W	282	MS	86	0	0	14	1.5	5.8	6.0
84472	7.1S	78.5W	2622	S	51	2	4	90	1.3	-5.4	5.6
84542	9.4S	77.6W	2760	S	52	1	2	19	2.1	6.0	6.4
84658	12.6S	69.2W	266	MS	90	0	0	0	2.2	5.0	5.5
84686	13.6S	72.0W	3249	S	118	0	0	7	2.2	-5.8	6.2
84782	18.1S	70.3W	469	MS	120	1	1	0	1.7	7.1	7.3
85312	19.8S	63.9W	992	S	25	0	0	100	1.6	-11.3	11.4
85406	18.3S	70.3W	58	M	116	0	0	3	1.7	4.7	5.0
86097	22.6S	55.6W	662	M	81	2	2	75	2.5	-5.4	6.0

WMO REGION 4:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71882	51.0N	118.2W	443	MS	120	0	0	28	3.7	4.2	5.6
76118	30.4N	109.7W	1040	MS	32	1	3	97	0.9	-10.3	10.3
76539	22.1N	101.0W	1871	MS	84	0	0	71	1.1	-4.5	4.6
76632	20.1N	98.7W	2417	MS	46	0	0	80	0.9	-5.8	5.9
76726	18.9N	99.3W	1560	MS	52	1	2	98	1.6	-7.6	7.8
76762	17.5N	99.5W	1360	MS	65	2	3	100	1.2	11.1	11.2
76848	16.3N	92.1W	1530	MS	99	7	7	98	0.7	-13.5	13.5

WMO REGION 5:

NO SUSPECTS IN THIS REGION

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01245	62.6N	9.7E	630	MS	87	0	0	100	1.1	-5.1	5.2
08221	40.5N	3.6W	633	MS	117	0	0	99	0.9	6.5	6.6
11024	48.4N	15.4E	860	S8	113	64	57	100	0.9	-13.8	13.8
11180	47.7N	15.8E	1546	S8	112	0	0	54	1.8	-4.4	4.8
11360	47.5N	14.1E	710	MS	60	0	0	55	1.5	4.6	4.8
11735	50.1N	17.2E	1512	S8	119	0	0	53	1.9	-4.2	4.6
12510	50.7N	15.7E	1613	8	118	0	0	65	1.7	-4.0	4.3
16020	46.5N	11.3E	1461	MS	58	58	100	0	0.0	0.0	0.0

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
16614	40.4N	21.3E	604	MS	111	0	0	99	1.1	-7.1	7.2
17260	37.1N	37.4E	855	MS	117	50	43	43	1.7	-0.3	1.7
40072	34.4N	40.9E	182	M	89	2	2	7	1.8	10.6	10.8

ANTARCTIC:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89108	89.0S	0.3W	2754	S7	22	0	0	5	2.5	5.2	5.8
89208	90.0S	0.0W	2835	S	35	35	100	0	0.0	0.0	0.0
89264	71.4S	68.9W	780	S8	33	0	0	12	3.7	4.4	5.7
89266	72.2S	60.3W	91	MS	32	28	88	84	1.4	-4.1	4.3
89828	74.5S	123.0E	3280	S7	35	1	3	63	3.6	8.6	9.3
89860	74.2S	160.3E	1772	S8	34	0	0	3	1.5	-5.9	6.1
89863	74.9S	163.1E	30	MS	25	0	0	32	3.6	-5.1	6.2

TABLE 4

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from Bracknell global model.

Observation times :All hours combined.

Level(s) monitored :70.0 - 500.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

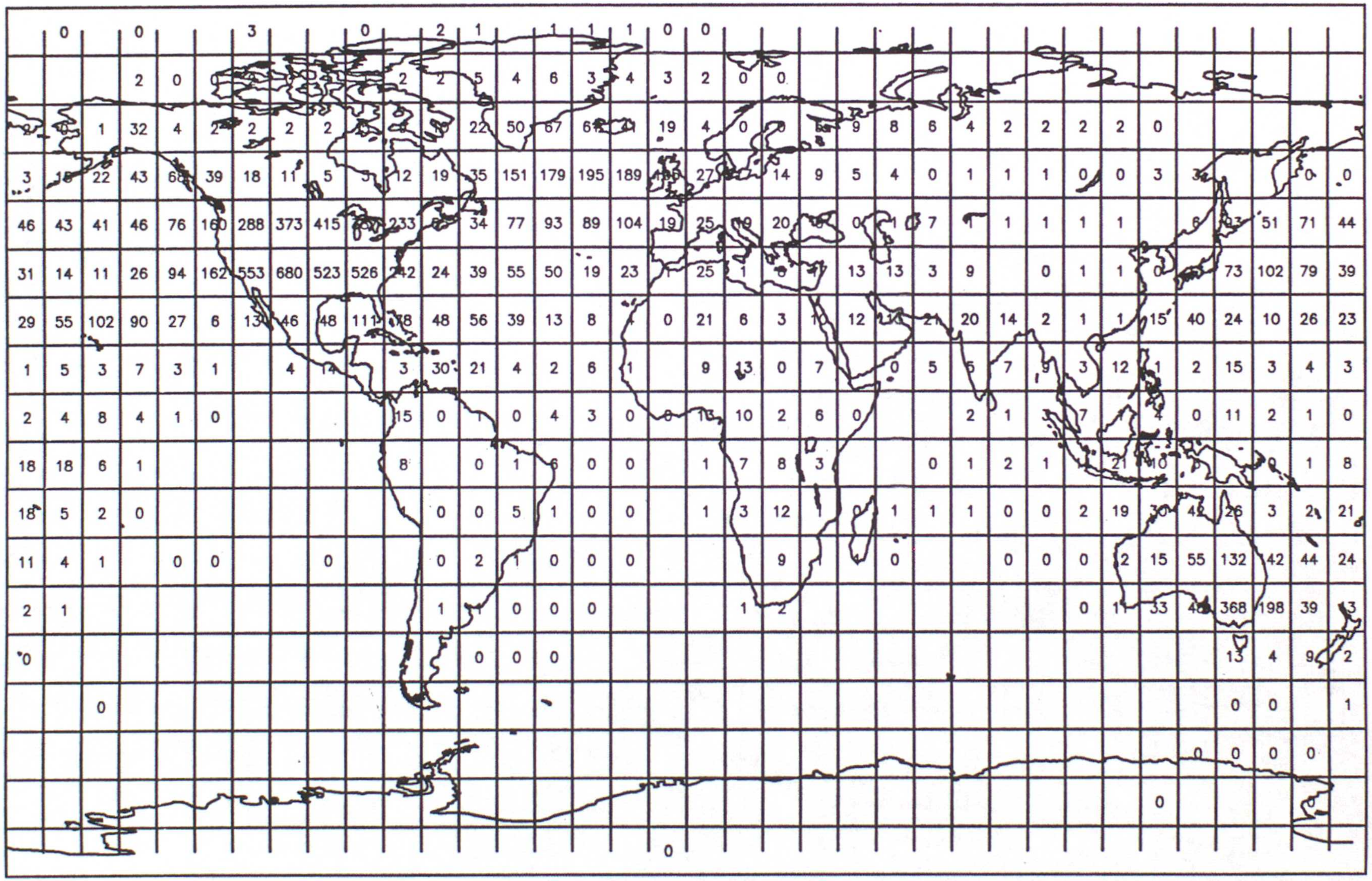
SELECTION CRITERIA :N REP $\geq$ 20

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAA	103	3	7	2.5	1.2	102	0	4	0	7.7	0.9
AAL	5307	0	1	1.7	0.2	5287	0	1	0	8.2	1.2
AAN	140	1	2	2.3	0.7	135	0	4	0	10.7	1.2
AAR	2023	1	2	1.7	0.1	2027	0	2	0	9.1	1.3
ACA	965	1	1	1.8	-0.1	991	0	2	0	8.3	1.3
ACI	32	0	0	1.4	0.2	32	0	0	0	8.5	3.0
AEA	415	7	42	3.9	1.7	405	0	4	0	10.3	1.3
AEL	557	0	3	1.9	-0.3	562	0	4	0	9.7	1.2
AFL	203	5	100	3.4	1.9	201	0	5	0	9.5	0.8
AFR	1088	0	4	1.8	-0.2	1100	0	4	0	9.0	1.2
AIC	24	0	8	1.2	-0.5	24	0	17	0	18.0	7.0
AIH	74	3	4	1.9	0.5	76	0	1	0	8.6	1.1
AJJ	27	4	4	3.1	1.3	27	0	100	0	10.1	4.9
AMT	337	0	1	1.3	0.2	341	0	1	0	6.6	1.4
AMX	166	0	2	2.0	0.1	166	0	2	0	9.2	1.6
AMY	187	1	1	2.1	-0.9	191	0	1	1	9.2	0.3
ANA	801	0	1	1.8	-0.2	803	0	2	0	9.5	1.4
ANZ	2404	1	3	2.0	-0.3	2391	0	3	1	9.1	1.9
AOM	382	0	1	1.8	0.9	382	0	3	0	9.2	1.5
ARP	97	1	1	1.7	1.0	96	0	3	0	10.0	3.0
ASY	21	0	0	1.7	0.8	21	0	0	0	5.7	1.1
ATN	37	0	0	2.4	0.7	37	0	5	0	14.3	4.9
AUA	104	0	8	1.9	-0.2	103	0	8	0	7.9	2.0
AVA	364	3	6	1.8	0.1	365	0	7	0	11.5	1.9
AVN	43	5	5	1.2	-0.6	43	0	0	0	7.1	0.4
AZA	470	1	5	2.8	0.8	474	0	5	0	10.2	1.4
BAL	269	0	13	1.6	0.0	274	0	13	0	8.7	1.5
BAW	1593	0	2	1.7	-0.1	1606	0	3	0	8.5	1.5
BBB	45	0	2	1.3	-0.5	45	0	2	0	8.8	1.4
BWA	415	1	4	2.1	1.3	417	0	5	0	10.9	2.1
CAL	1891	1	2	1.9	0.0	1894	0	2	0	10.1	1.2
CCA	161	2	9	2.7	0.8	163	1	13	0	14.9	-0.7
CDN	2353	0	1	1.8	0.5	2360	0	2	0	8.9	0.9
CES	142	1	1	1.9	0.7	143	1	8	0	12.4	-0.5
CFC	32	0	9	2.4	0.2	32	0	9	0	8.9	3.4
CFG	1164	1	3	1.8	-0.4	1169	0	3	0	8.7	0.6
CKS	110	0	3	1.6	-0.1	110	0	2	0	6.7	0.9
CKT	155	1	6	1.5	0.8	157	0	6	0	7.5	1.4
CLX	199	0	1	1.9	-0.9	201	0	3	1	7.6	0.6
CMI	1068	1	4	2.1	0.2	1070	0	3	0	9.1	1.7
CMM	198	0	1	1.3	0.0	197	0	1	0	7.8	0.2
COA	744	1	1	1.6	0.5	748	0	2	0	7.7	1.0
CPA	55	0	5	2.4	-0.8	55	0	4	0	10.2	0.5
CRL	330	0	3	2.6	1.4	330	0	2	0	8.2	1.6
CTM	56	0	13	3.1	-1.3	55	0	18	0	9.3	0.8
CUB	375	1	100	2.6	1.5	372	0	100	0	11.3	1.9
DAF	32	3	9	2.3	-0.1	32	0	6	3	9.1	-0.8
DAL	5277	0	2	2.0	0.7	5073	0	2	0	8.4	1.1
DHL	488	4	100	4.2	-2.6	487	0	2	0	9.0	0.8
DLH	3335	0	7	2.0	0.4	3325	0	9	2	8.5	1.2
DOA	296	1	12	1.9	0.5	291	0	12	0	9.7	1.4
EIA	188	1	6	1.8	-0.2	195	0	7	0	9.8	0.9
ELY	106	0	12	1.8	-0.2	108	0	12	0	8.7	1.5
EVA	1858	0	1	1.9	-0.5	1868	0	3	0	9.9	0.9
EWW	111	4	52	3.1	-0.6	112	0	53	0	13.6	2.8
FDX	1215	1	3	2.0	0.7	1234	0	3	0	8.8	1.0
FIN	436	1	3	1.8	0.3	432	0	3	0	8.8	0.6
FJI	432	1	3	1.6	0.0	427	0	2	0	8.5	0.8
GAF	81	1	1	1.6	0.4	82	0	0	0	7.3	1.0

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
GFA	22	0	9	2.9	-0.4	23	0	4	0	7.4	-0.2
GIA	168	4	5	2.1	0.3	170	0	2	0	7.1	2.1
HAL	1360	0	1	1.4	0.2	1363	0	2	1	8.4	1.1
HLF	128	1	3	2.2	-0.6	122	0	2	0	7.5	0.5
HRH	41	0	2	1.9	0.4	41	0	2	0	7.9	1.6
HZM	20	0	5	2.8	0.8	20	0	0	0	7.3	-0.7
IBE	2403	1	18	2.1	0.6	2388	0	18	0	9.8	1.0
ICE	445	0	0	1.5	-0.1	444	0	2	1	8.6	0.8
JAA	76	1	1	2.1	1.4	77	0	3	0	10.1	2.6
JAL	6759	0	1	2.0	0.2	6764	0	2	0	9.2	1.2
JAS	21	0	0	1.4	1.1	21	0	0	0	5.5	1.8
JAZ	25	0	4	1.8	1.2	25	0	4	0	8.5	0.8
KAL	3477	1	2	2.0	0.1	3477	0	3	0	9.9	1.4
KLM	2444	0	2	1.7	0.2	2457	0	3	1	8.4	1.6
LDA	193	0	6	1.9	-1.0	197	0	9	0	9.2	1.8
LDI	96	4	76	3.0	-0.5	102	0	6	0	10.4	2.0
LIB	247	2	4	1.7	0.7	248	0	4	1	8.1	0.5
LOB	21	33	24	3.7	2.5	22	0	0	0	6.9	0.1
LOT	215	0	2	2.3	-1.3	213	0	1	0	8.0	1.3
LTU	867	1	2	1.8	0.5	848	0	3	0	8.5	1.0
MAH	23	0	0	2.5	1.7	23	0	0	0	9.4	2.5
MAS	284	1	0	1.9	-0.5	288	0	6	0	11.5	1.2
MDA	142	0	1	1.9	-0.3	142	0	4	0	9.4	0.7
MPH	721	0	1	1.8	-0.8	715	0	2	0	8.7	1.0
MRS	57	7	23	3.5	-2.5	57	0	12	0	13.4	4.7
NCA	660	0	2	2.5	1.1	658	0	3	0	9.5	0.9
NGA	41	0	0	2.5	2.0	41	0	100	0	16.6	3.8
NUG	254	0	1	2.3	-2.2	254	0	92	0	4.5	-1.5
NWA	9451	0	2	2.2	0.8	9465	0	2	0	8.7	1.1
PAC	84	2	8	3.1	0.9	85	0	8	0	10.0	0.9
PAL	858	2	2	1.8	-0.4	861	0	4	0	10.6	0.6
PAO	202	1	3	1.5	-0.4	199	0	3	0	9.5	0.6
PIA	24	0	0	1.6	-1.0	24	0	4	0	9.1	0.8
PNL	64	0	2	2.5	1.7	63	0	3	0	11.8	3.4
QFA	1200	1	3	1.7	0.0	1201	0	3	1	8.2	1.8
RAF	121	0	0	1.3	0.0	121	0	2	0	9.6	2.8
RIA	149	0	5	2.7	1.7	149	0	67	1	10.1	1.3
RJA	56	4	7	2.3	0.8	57	0	7	2	9.6	1.9
RKA	44	2	7	1.5	-0.6	44	0	7	0	8.5	2.3
RON	27	4	7	1.9	0.1	27	0	7	0	9.6	3.3
RRR	178	0	15	2.0	0.0	179	1	18	0	9.6	2.6
SAA	191	2	2	1.6	-0.4	193	0	2	0	8.3	1.5
SAB	57	0	0	1.4	-0.4	57	0	0	0	7.2	-0.3
SAS	1175	0	1	1.6	-0.2	1182	0	3	1	8.5	0.2
SIA	1261	0	2	1.8	-0.4	1269	0	4	1	10.3	0.9
SOL	53	2	2	1.7	0.0	53	0	4	2	9.5	2.8
SPP	126	2	8	1.9	0.2	125	0	10	0	9.9	1.2
SVA	109	0	2	1.6	-0.2	117	0	3	1	7.8	0.9
SWR	105	0	5	2.0	0.6	109	0	4	0	8.5	2.2
TAP	531	1	6	2.0	-0.3	533	0	6	0	9.6	1.6
TEJ	59	0	24	2.2	0.5	60	0	28	0	14.2	4.6
THA	275	1	3	2.1	-0.3	274	0	4	0	11.5	1.4
THY	31	0	3	2.5	0.3	32	0	19	0	12.4	4.4
TOW	131	0	2	2.2	-0.1	130	0	5	0	10.5	2.1
TWA	1152	1	3	2.1	0.1	1157	0	2	0	9.3	1.0
UAL	45012	1	3	1.6	0.2	45071	0	2	0	7.6	1.0
ULE	196	2	3	1.9	0.3	188	0	3	0	9.8	0.8
UPS	929	1	10	1.6	-0.2	951	0	11	0	7.8	1.2
USA	159	1	1	1.4	-0.3	160	0	2	0	8.3	1.2

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
VIA	537	1	4	1.9	0.7	541	0	6	0	9.1	0.8
VIR	178	0	2	1.7	-0.3	178	0	5	0	10.4	2.9
VRG	53	4	6	1.6	0.7	50	0	8	0	13.1	3.1
VSP	111	2	3	2.0	0.6	111	0	1	0	9.7	1.3
WOA	121	1	2	1.7	0.8	125	1	4	0	7.1	0.3
AN	23417	0	1	1.5	-0.1	23221	0	1	0	7.2	1.5
BA	18785	0	10	1.5	0.6	18761	0	15	0	7.1	1.4
DL	66891	0	3	1.4	0.1	66891	0	3	0	7.0	1.2
FJ	23	0	13	1.3	0.7	23	0	17	0	11.7	3.2
KL	12128	0	10	1.4	0.5	12123	0	9	0	7.0	1.5
LH	2717	0	3	1.6	0.1	2706	0	4	1	7.1	1.5
MS	24	0	0	1.2	-0.5	24	0	4	0	9.9	3.3
NW	22205	0	1	1.6	0.3	22205	0	1	0	6.9	1.1
PN	33	3	3	1.7	1.2	33	0	0	0	11.2	3.0
QF	11649	0	1	1.3	0.3	11634	0	1	0	6.9	1.4
SA	1659	0	2	1.4	0.9	1658	0	2	0	6.9	1.6
SV	706	3	15	1.4	0.7	703	0	15	0	8.5	1.9
M	377	3	97	3.2	0.2	388	1	97	0	14.0	2.7
N	524	2	4	2.5	0.4	550	0	5	0	9.7	1.4

MEAN DAILY COUNT OF AIRCRAFT 70 – 500 HPA FIGURE 3
NOVEMBER 1995
OBSERVATIONS WITH O–B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED


0 0 3 0 2 1 1 1 1 0 0
2 0 0 2 2 5 4 6 3 4 3 2 0 0
2 0 1 32 4 2 2 2 2 22 50 67 61 41 19 4 0 9 8 6 4 2 2 2 2 0
3 15 22 43 68 39 18 11 5 3 12 19 35 151 179 195 189 186 27 14 9 5 4 0 1 1 1 0 0 3 3 0 0
46 43 41 46 76 160 288 373 415 233 34 77 93 89 104 19 25 19 20 0 1 7 1 1 1 1 1 6 51 71 44
31 14 11 26 94 162 553 680 523 526 242 24 39 55 50 19 23 1 25 1 13 13 3 9 0 1 1 0 73 102 79 39
29 55 102 90 27 6 13 46 48 111 178 48 56 39 13 8 4 0 21 6 3 1 12 11 21 20 14 2 1 1 15 40 24 10 26 23
1 5 3 7 3 1 4 14 3 30 21 4 2 6 1 9 13 0 7 0 5 5 7 9 3 12 1 2 15 3 4 3
2 4 8 4 1 0 15 0 1 0 4 3 0 0 13 10 2 6 0 2 1 7 1 4 0 11 2 1 0
18 18 6 1 8 0 1 6 0 0 1 7 8 3 0 1 2 1 1 21 10 0 1 8
18 5 2 0 1 0 0 5 1 0 0 1 3 12 1 0 1 1 1 0 0 2 19 30 42 26 3 2 21
11 4 1 0 0 0 0 2 1 0 0 0 9 1 0 0 0 0 2 15 55 132 42 44 24
2 1 1 1 0 0 0 1 2 0 11 33 48 368 198 39 13
0 0 0 0 13 4 9 2
0 0 0 1
0 0 0 0
0 0
0

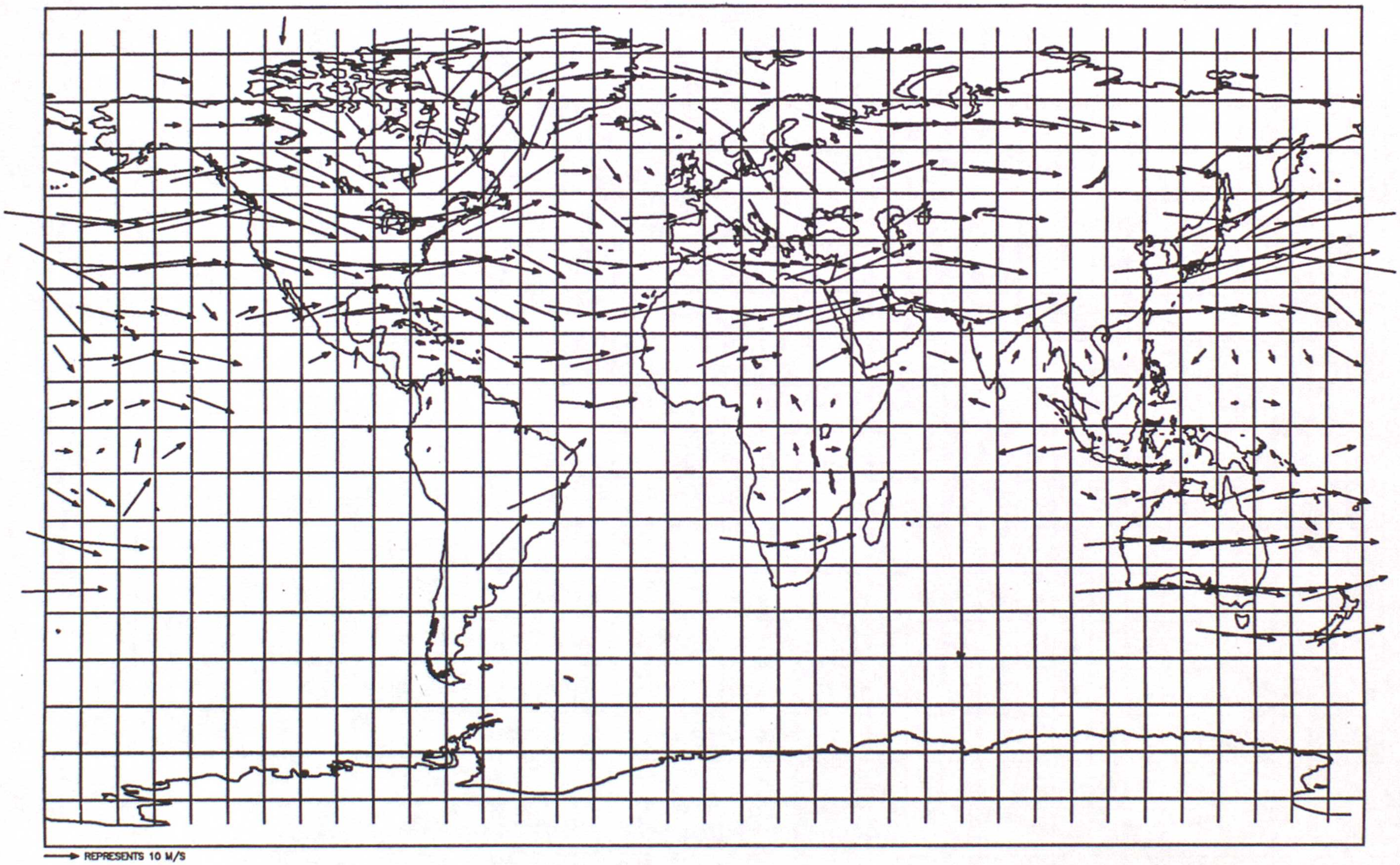
AIRCRAFT MEAN WINDS BETWEEN 70 AND 500 HPA

FIGURE 4

NOVEMBER 1995

OBSERVATIONS WITH O–B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED

VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT



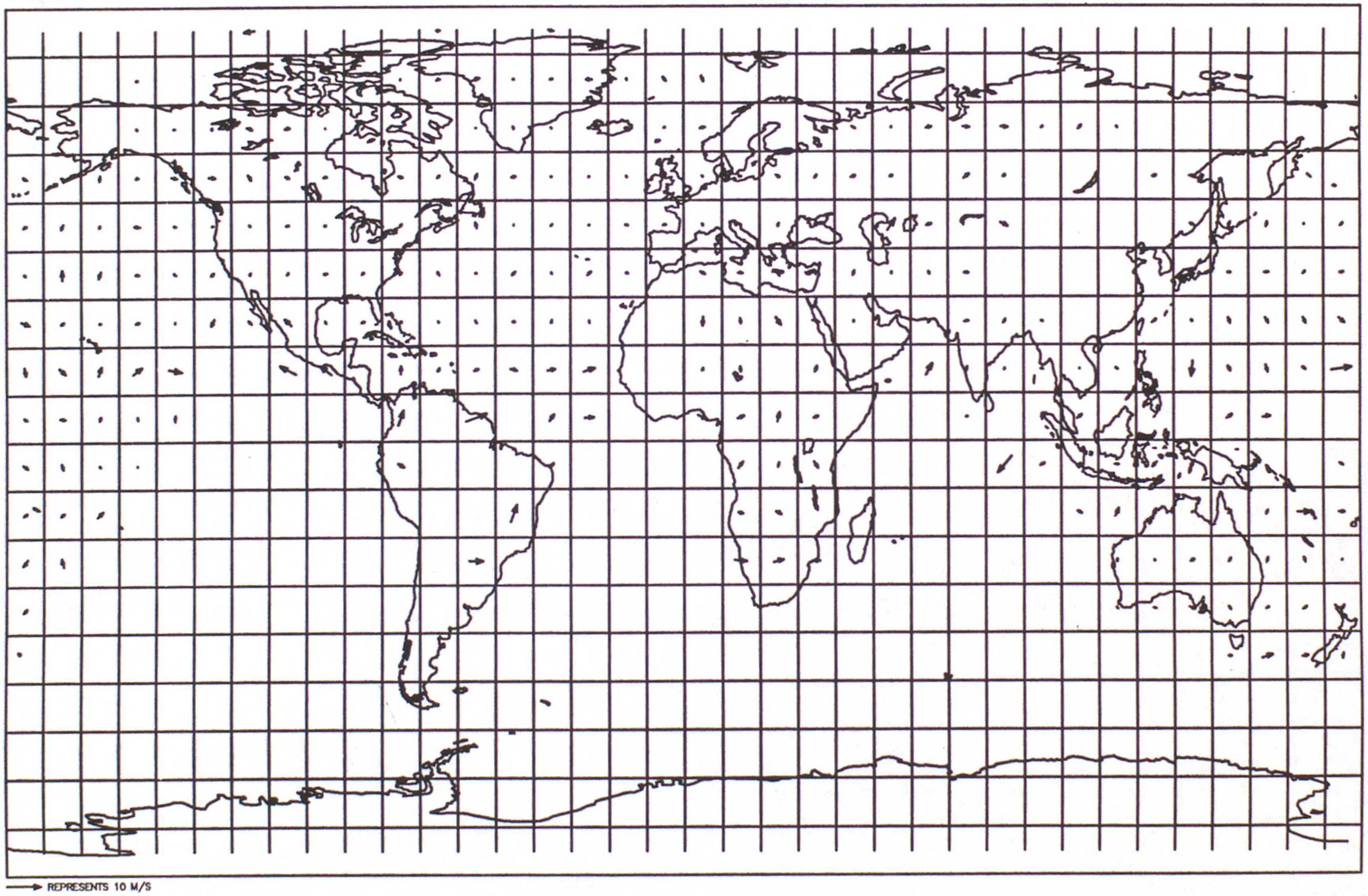
AIRCRAFT MEAN O–B WINDS BETWEEN 70 AND 500 HPA

NOVEMBER 1995

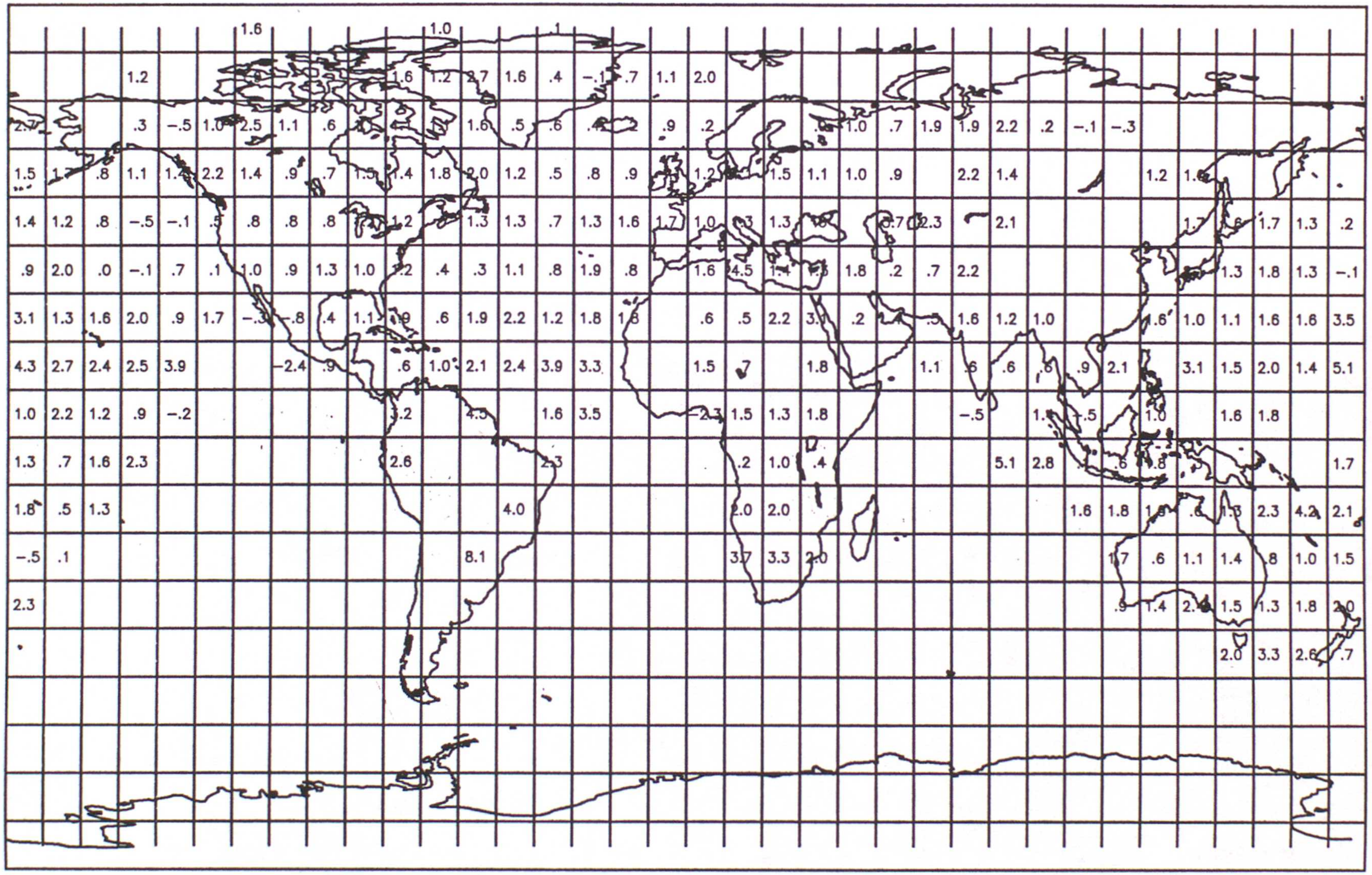
OBSERVATIONS WITH O–B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED

VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 5



AIRCRAFT : MEAN O–B SPEEDS (M/S) BETWEEN 70 AND 500 HPA FIGURE 6
NOVEMBER 1995
OBSERVATIONS WITH O–B VECTOR DIFFERENCE > 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE > 30 OBS ARE PRESENT


1.6 1.0 1
1.2 1.6 1.2 .7 1.6 .4 –.1 .7 1.1 2.0
2.7 .3 –.5 1.0 2.5 1.1 .6 1.6 .5 .6 .4 .2 .9 .2 1.0 .7 1.9 1.9 2.2 .2 –.1 –.3
1.5 1.7 .8 1.1 1.4 2.2 1.4 .9 .7 1.5 1.4 1.8 2.0 1.2 .5 .8 .9 1.2 1.5 1.1 1.0 .9 2.2 1.4 1.2 1.6
1.4 1.2 .8 –.5 –.1 .5 .8 .8 .8 1.2 1.3 1.3 .7 1.3 1.6 1.7 1.0 .3 1.3 .7 2.3 2.1 1.7 1.7 1.3 .2
.9 2.0 .0 –.1 .7 .1 1.0 .9 1.3 1.0 1.2 .4 .3 1.1 .8 1.9 .8 1.6 4.5 1.4 1.5 1.8 .2 .7 2.2 1.3 1.8 1.3 –.1
3.1 1.3 1.6 2.0 .9 1.7 –.3 –.8 .4 1.1 .9 .6 1.9 2.2 1.2 1.8 1.8 .6 .5 2.2 3.1 .2 .5 1.6 1.2 1.0 .6 1.0 1.1 1.6 1.6 3.5
4.3 2.7 2.4 2.5 3.9 –2.4 .9 .6 1.0 2.1 2.4 3.9 3.3 1.5 .7 1.8 1.1 .6 .6 .6 .9 2.1 3.1 1.5 2.0 1.4 5.1
1.0 2.2 1.2 .9 –.2 .2 4.5 1.6 3.5 –2.3 1.5 1.3 1.8 –.5 1.1 .5 1.0 1.6 1.8
1.3 .7 1.6 2.3 2.6 2.3 .2 1.0 .4 5.1 2.8 .6 .8 1.7
1.8 .5 1.3 4.0 2.0 2.0 1.6 1.8 1.9 .6 1.3 2.3 4.2 2.1
–.5 .1 8.1 3.7 3.3 2.0 1.7 .6 1.1 1.4 .8 1.0 1.5
2.3 .9 1.4 2.4 1.5 1.3 1.8 2.0
2.0 3.3 2.6 .7

AIRCRAFT : RMS O–B VECTOR (M/S) BETWEEN 70 AND 500 HPA FIGURE 7
NOVEMBER 1995
OBSERVATIONS WITH O–B VECTOR DIFFERENCE GREATER THAN 60 MPS EXCLUDED
VALUES ARE PRINTED WHERE > 30 OBS ARE PRESENT

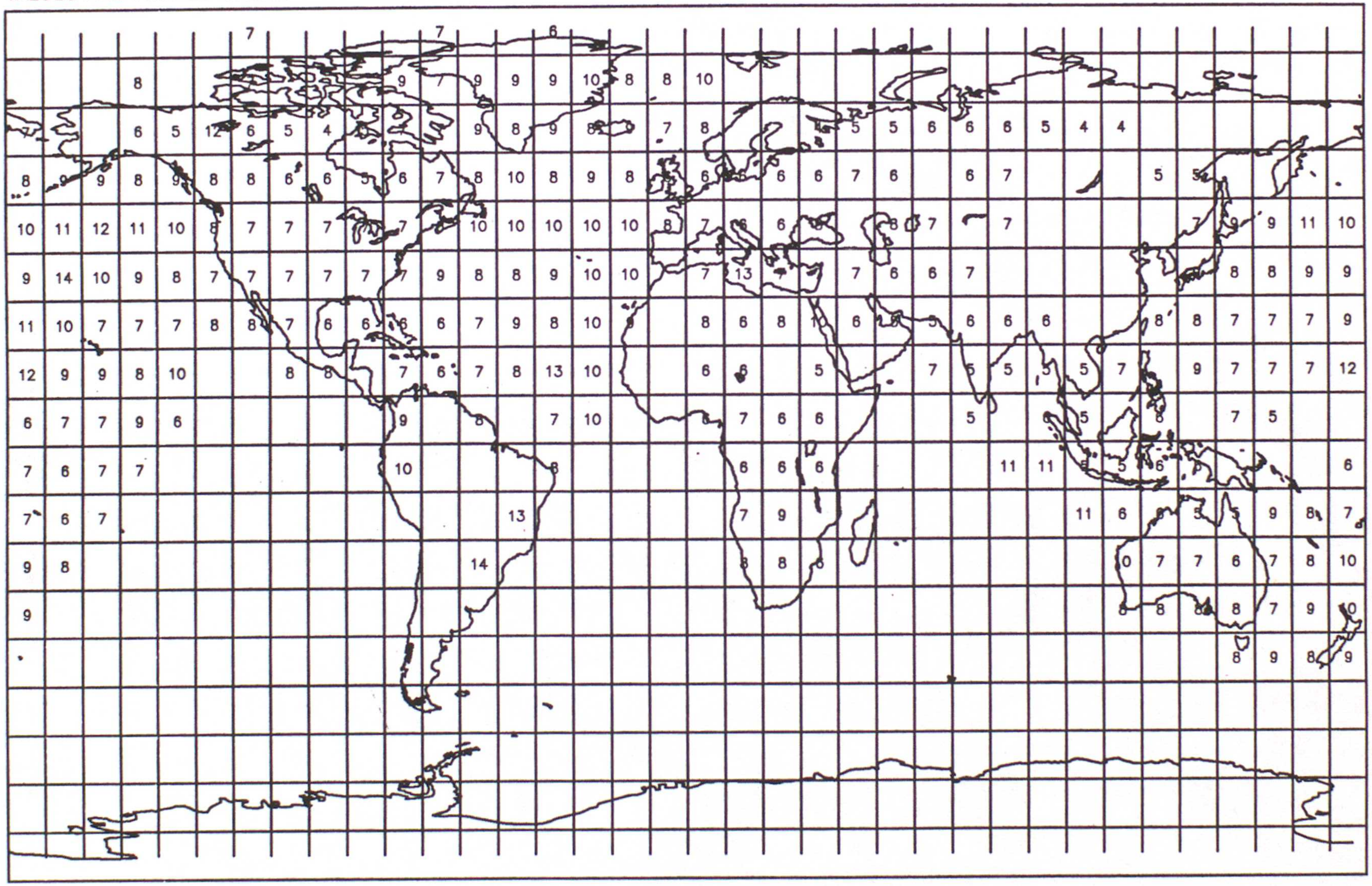


TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from Bracknell global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 1000.0 - 30.0 hPa

Element monitored :GEOPOTENTIAL HEIGHT IN metres

Parameters monitored

:NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:% REJ :Percentage of observations rejected by quality control at level shown during period.

:SD :SD of difference of observations from background values at level shown excluding those with gross errors.

:BIAS :Mean difference of observations from background values at level shown excluding those with gross errors.

:RMS :Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

:NUM LEVELS :Number of levels satisfying selection criteria.

GROSS ERROR LIMITS :Defined in Appendix I.1

SELECTION CRITERIA :$\geq$ 3 levels with $\geq$ 10 observations and $\geq$ 100 m weighted RMS.

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
15480	00	Z	200	44/ 29	19	2	87.7	-23.1	90.7	5
25399	00	Z	300	66/-170	23	1	55.3	61.0	82.4	4
26258	00	Z	150	58/ 28	15	1	89.5	53.8	104.4	6
37018	12	Z	100	44/ 39	10	0	30.5	125.9	129.5	5
42182	00	Z	100	29/ 77	27	0	88.0	-102.4	135.0	7
42182	12	Z	50	29/ 77	19	0	131.4	-49.1	140.2	5
42314	00	Z	150	27/ 95	27	1	90.0	-21.1	92.4	8
42314	12	Z	100	27/ 95	17	0	100.8	-90.2	135.3	7
42339	00	Z	50	26/ 73	12	1	97.8	-186.7	210.8	9
42339	12	Z	150	26/ 73	20	0	74.9	-91.4	118.2	8
42361	00	Z	200	26/ 78	14	0	84.2	-23.1	87.3	5
42369	00	Z	70	27/ 81	11	0	162.7	-6.2	162.8	8
42369	12	Z	30	27/ 81	11	2	183.2	72.6	197.1	7
42379	00	Z	200	27/ 83	22	0	96.2	-32.8	101.6	9
42379	12	Z	250	27/ 83	21	0	91.6	-55.4	107.1	8
42397	00	Z	500	27/ 88	20	0	39.7	-37.3	54.5	5
42410	12	Z	150	26/ 92	20	0	88.9	-23.7	92.0	8
42492	12	Z	70	26/ 85	10	0	101.4	-109.9	149.5	4
42647	00	Z	250	23/ 73	23	0	83.0	-53.7	98.8	5
42667	00	Z	150	23/ 77	13	1	105.5	-51.4	117.3	6
42667	12	Z	400	23/ 77	21	0	61.7	-25.0	66.5	4
42701	00	Z	100	23/ 85	12	2	60.3	-211.7	220.1	10
42701	12	Z	200	23/ 85	10	0	37.2	-118.1	123.8	4
42724	00	Z	150	24/ 91	16	0	110.0	-21.9	112.1	6
42875	00	Z	150	21/ 82	16	0	78.0	-75.3	108.4	6
42875	12	Z	200	21/ 82	17	0	75.2	-51.8	91.3	6
43014	00	Z	200	20/ 75	23	2	77.1	-37.5	85.7	5
43014	12	Z	250	20/ 75	23	1	89.0	20.8	91.4	6
43041	00	Z	200	19/ 82	13	0	56.5	-72.8	92.2	4
43128	00	Z	150	17/ 78	19	1	93.2	-97.2	134.6	9
43128	12	Z	150	17/ 78	19	0	67.3	-65.8	94.1	4
43150	12	Z	200	18/ 83	23	0	73.5	-44.5	85.9	4
43185	00	Z	150	16/ 81	24	1	88.5	-60.8	107.4	6
43192	00	Z	70	15/ 74	11	0	110.4	-161.9	196.0	7
43279	00	Z	70	13/ 80	12	0	124.0	-69.3	142.1	5
43285	12	Z	30	13/ 75	15	1	118.6	244.4	271.7	5
43295	00	Z	150	13/ 78	15	0	69.4	110.6	130.6	4
43353	00	Z	100	10/ 76	14	0	83.6	-130.1	154.7	4
43369	00	Z	100	8/ 73	20	1	113.9	-64.8	131.1	6
43371	00	Z	50	8/ 77	20	1	109.2	-232.1	256.5	6
44288	00	Z	250	46/ 103	11	1	59.0	-85.6	104.0	4
44373	12	Z	200	44/ 104	17	0	58.8	87.2	105.2	4
60360	12	Z	500	37/ 8	2	15	3.0	-141.0	141.0	5
62306	12	Z	50	31/ 27	10	2	40.6	355.0	357.3	8
63450	12	Z	700	9/ 39	24	1	20.1	40.8	45.5	5
83612	12	Z	100	-20/ -55	14	0	27.1	116.2	119.3	4
89009	12	Z	400	-90/ 0	19	0	34.6	59.0	68.4	5
89050	00	Z	250	-62/ -59	20	10	62.8	150.1	162.7	10
89542	12	Z	30	-68/ 46	13	0	47.9	247.9	252.5	5
96237	00	Z	300	-2/ 106	22	0	29.8	-69.2	75.4	5

AVAILABILITY – TEMP – 500 HPA GEOPOTENTIAL – NOVEMBER 1995 FIGURE 8
ALL HOURS
10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS
TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS – 1423

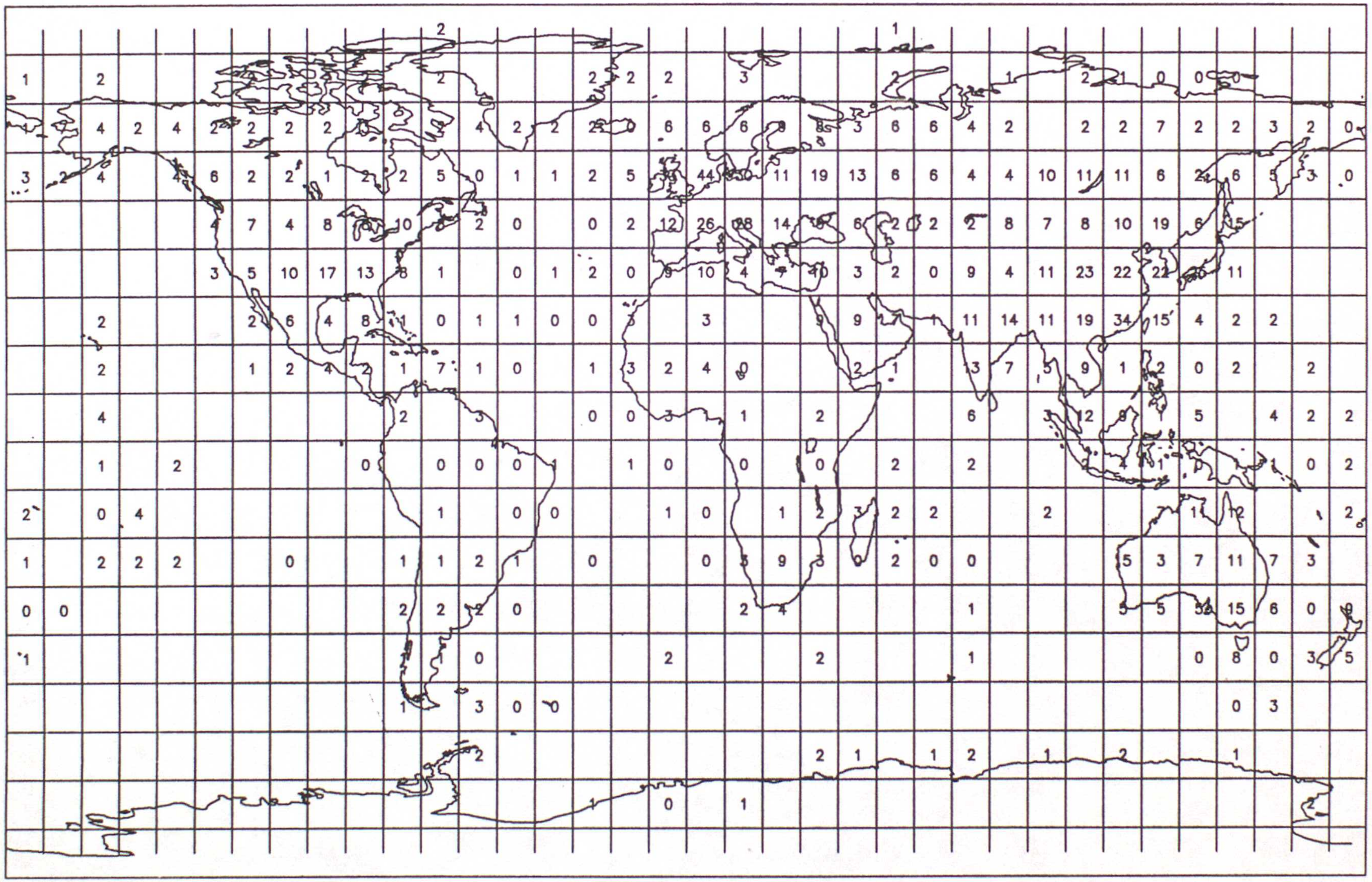

2 1
1 2 2 2 2 2 3 2 1 2 1 0 0 0
1 2 4 2 4 2 2 2 2 2 4 2 2 2 0 6 6 6 8 8 3 6 6 4 2 2 2 7 2 2 3 2 0
3 2 4 4 6 2 2 1 2 2 5 0 1 1 2 5 36 44 30 11 19 13 6 6 4 4 10 11 11 6 2 6 5 3 0
4 7 4 8 10 2 0 0 2 12 26 28 14 6 2 2 2 8 7 8 10 19 6 15
3 5 10 17 13 8 1 0 1 2 0 9 10 4 7 40 3 2 0 9 4 11 23 22 22 20 11
2 2 6 4 8 1 0 1 1 0 0 3 3 9 9 1 11 14 11 19 34 15 4 2 2
2 1 2 4 2 1 7 1 0 1 3 2 4 0 2 1 13 7 5 9 1 2 0 2 2
4 2 3 0 0 3 1 2 6 3 12 9 1 5 4 2 2
1 2 0 0 0 0 1 1 0 0 0 2 2 2 4 1 1 0 2
2 0 4 1 0 0 1 0 1 2 3 2 2 2 7 11 12 2
1 2 2 2 0 1 1 2 1 0 0 3 9 3 0 2 0 0 15 3 7 11 7 3
0 0 2 2 2 0 2 4 1 5 5 32 15 6 0 9
1 1 0 2 2 1 0 8 0 3 5
1 3 0 0 0 3
2 2 1 1 2 1 2 1
1 0 1 2

TABLE 6

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from Bracknell global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 100.0 hPa
Element monitored		:VECTOR WIND in $m\ s^{-1}$
Parameters monitored		
	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.2	
SELECTION CRITERIA	:$\geq$ 10 observations and $\geq$ 15 $m\ s^{-1}$ RMS vector wind.	

ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN

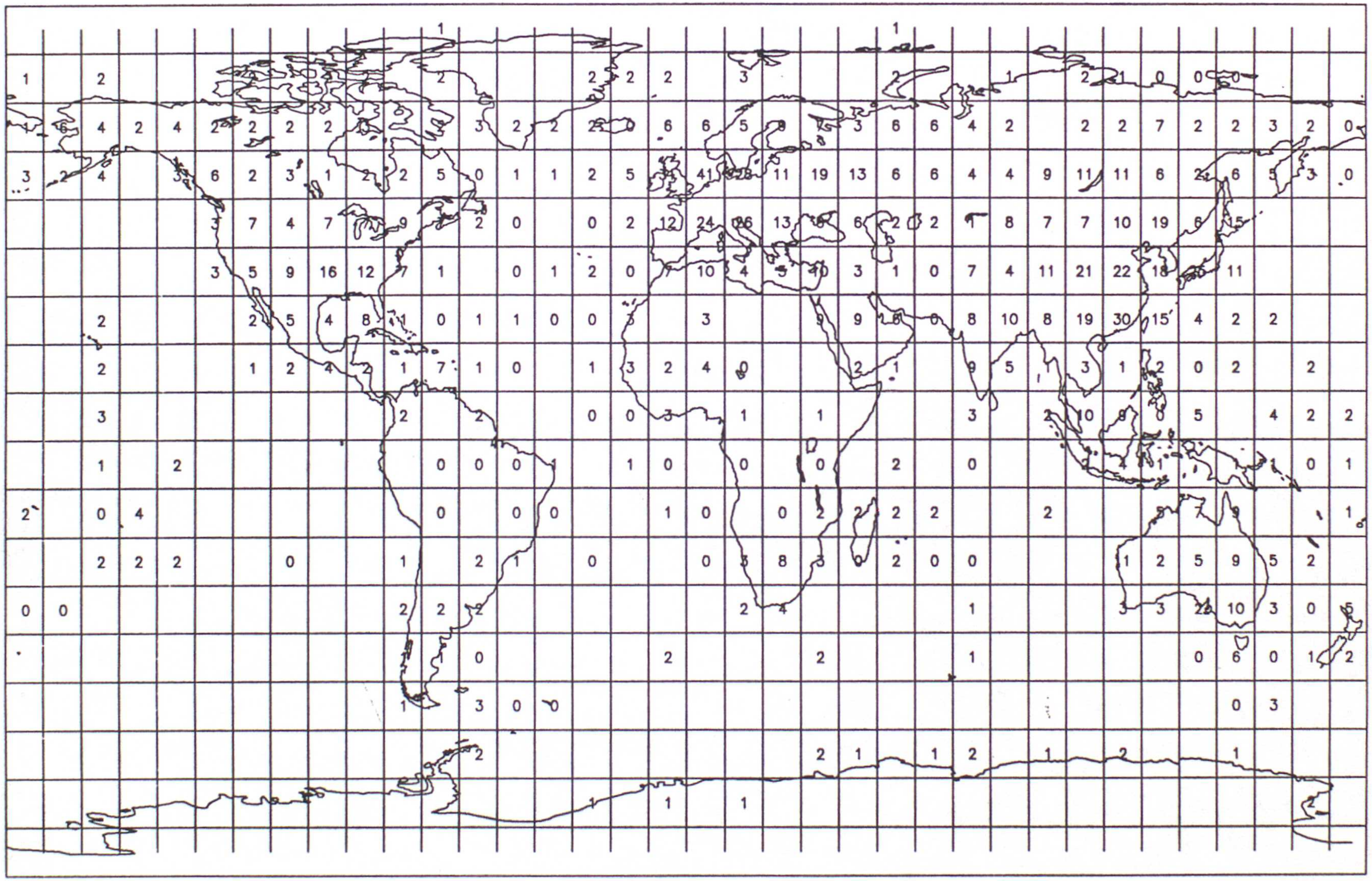
WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
40800	12	V	300	33/ 52	14	0	14	-14.3	2.3	15.2	1
41530	00	V	150	34/ 72	15	0	13	9.4	0.4	15.1	1
42339	00	V	200	26/ 73	14	0	7	-18.0	-1.5	21.4	2
42339	12	V	200	26/ 73	11	0	18	-16.4	-3.9	18.8	1
42379	00	V	100	27/ 83	15	0	6	6.3	7.2	17.3	1
43014	00	V	150	20/ 75	15	0	26	12.5	7.6	21.2	1
43014	12	V	200	20/ 75	21	0	9	7.0	8.6	15.1	1
83612	00	V	150	-20/ -55	10	0	30	13.0	0.2	22.4	1
83827	12	V	200	-26/ -55	16	0	12	6.1	-4.2	15.2	1

AVAILABILITY – TEMP/PILOT – 300 HPA WIND – NOVEMBER 1995 FIGURE 9

ALL HOURS

10 DEGREE BOX AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS

TOTAL AVERAGE NUMBER OF OBSERVATIONS IN 24 HOURS – 1281



1 1
1 2 2 2 2 2 2 3 2 1 2 1 0 0 0
6 4 2 4 2 2 2 2 3 2 2 2 6 6 5 3 6 6 4 2 2 2 7 2 2 3 2 0
3 2 4 3 6 2 3 1 2 2 5 0 1 1 2 5 41 11 19 13 6 6 4 4 9 11 11 6 2 6 5 3 0
3 7 4 7 9 2 0 0 2 12 24 26 13 6 2 2 1 8 7 7 10 19 6 5
3 5 9 16 12 7 1 0 1 2 0 7 10 4 5 10 3 1 0 7 4 11 21 22 18 11
2 2 5 4 8 1 0 1 1 0 0 3 3 9 16 0 8 10 8 19 30 15 4 2 2
2 1 2 4 2 1 7 1 0 1 3 2 4 0 2 1 9 5 1 3 1 2 0 2 2
3 2 2 0 0 3 1 1 3 2 10 8 0 5 4 2 2
1 2 0 0 0 1 1 0 0 0 2 0 4 1 1 0 1
2 0 4 0 0 0 1 0 0 2 2 2 2 2 5 7 9 1
2 2 2 0 1 2 1 0 0 3 8 3 0 2 0 0 1 2 5 9 5 2
0 0 2 2 2 2 4 1 3 3 22 10 3 0 5
0 2 2 1 0 6 0 1 2
1 3 0 0 0 3
2 2 1 1 2 1 2 1
1 1 1 2

TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from Bracknell global model.

Observation times :00 UTC and 12 UTC.

Level(s) monitored :Standard levels between 500.0 - 150.0 hPa

Element monitored :WIND DIRECTION in degrees

Parameters monitored

:NUM OBS :Average number of observations at all levels.

:BIAS :Mean difference of observations from background values from all levels.

:MAX SPREAD :(For observation - background values) Maximum absolute difference of SD at any level from SD at all levels

:SD :SD of difference of observations from background values at all levels.

SELECTION CRITERIA :NUM OBS ≥ 5, and
ABSOLUTE BIAS ≥ 10°, with
SD < 30°, and
MAX SPREAD < 10°

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
16144	12	DD	45/ 12	19	19.6	2.7	21.4
17280	00	DD	38/ 40	29	-11.3	6.5	11.1
17280	12	DD	38/ 40	29	-10.3	2.0	8.9
21504	00	DD	75/ 113	11	-11.8	9.7	20.3
40265	00	DD	32/ 36	26	-19.4	8.8	15.5
43003	12	DD	19/ 73	17	-14.9	4.1	13.2
48327	00	DD	19/ 99	14	20.3	7.0	25.1
48900	00	DD	10/ 106	15	-10.3	5.9	24.5
53614	00	DD	38/ 106	27	-11.9	5.4	9.1
53614	12	DD	38/ 106	28	-11.5	4.3	8.2
55591	00	DD	30/ 91	25	-14.4	6.4	10.5
55591	12	DD	30/ 91	25	-14.4	5.7	11.5
59134	00	DD	24/ 118	26	11.1	1.2	8.4
59134	12	DD	24/ 118	27	10.3	4.2	9.2
60571	12	DD	32/ -2	20	10.5	6.4	12.2
67083	00	DD	-19/ 47	20	16.8	5.9	19.3
71072	12	DD	76/-119	20	10.5	4.9	17.2
72251	00	DD	28/ -97	27	-13.8	2.0	8.4
72251	12	DD	28/ -97	29	-15.9	1.2	10.1
83612	12	DD	-20/ -55	11	17.7	8.0	21.2
89664	12	DD	-78/ 167	13	-17.7	5.8	24.9
96413	00	DD	1/ 110	20	10.8	4.7	18.5
96413	12	DD	1/ 110	18	16.5	6.2	21.6
96441	12	DD	3/ 113	17	13.5	8.5	24.1

MONITORING OF SATELLITE WINDS

MONITORING CENTRE: BRACKNELL

MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from GOES, METEOSAT, GMS, INSAT.

Standard of comparison :Background field from Bracknell global model.

Selection Criteria :number of observations > 10.

Data Extracted :Layer:701 - 1000 hPa
401 - 700 hPa
101 - 400 hPa

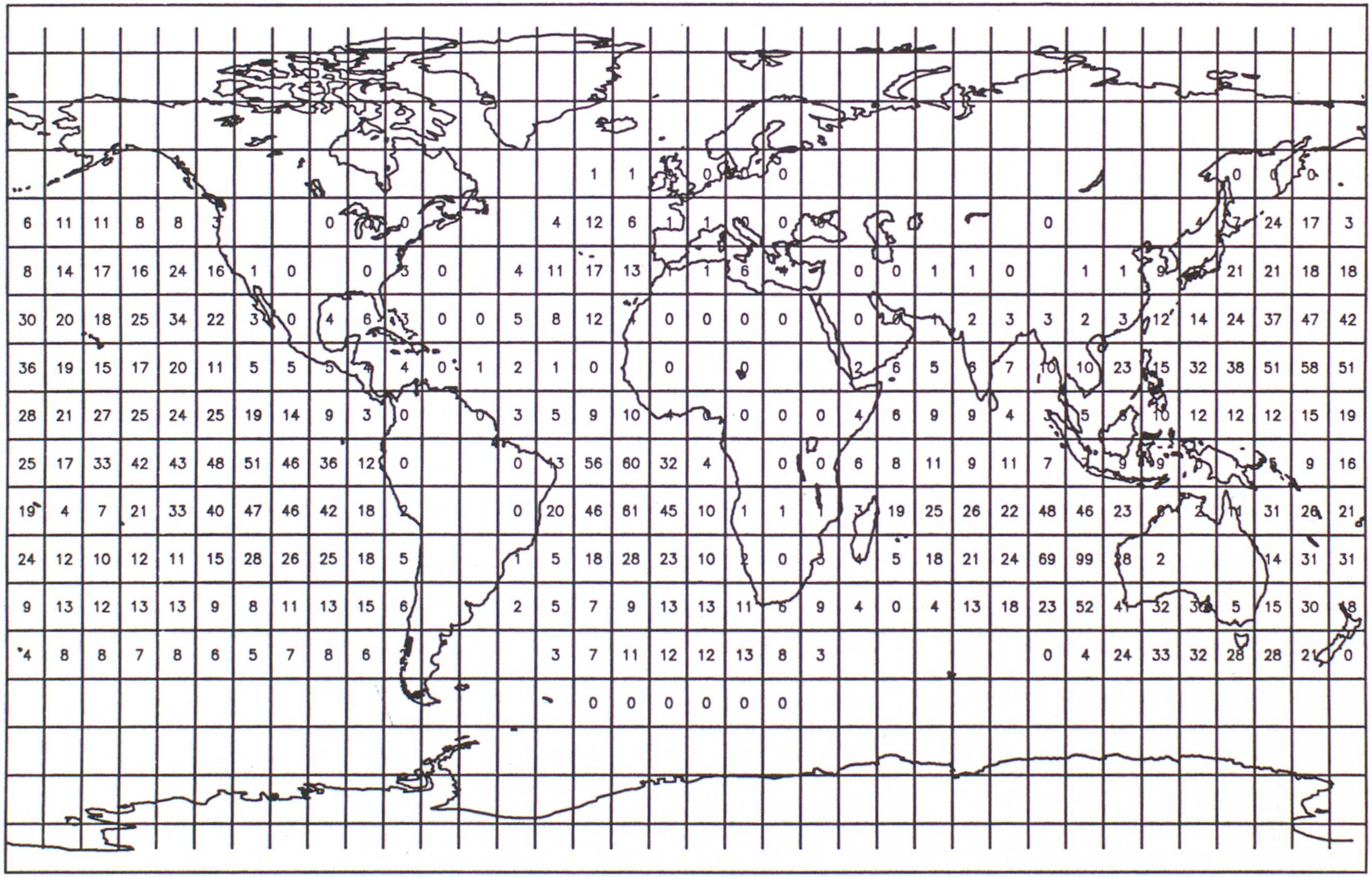
:Mean wind

:Mean observation minus background vector wind differences

:Mean observation minus background speed differences

:RMS of observation minus background vector differences

AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 701 AND 1000 HPA FIGURE 10
NOVEMBER 1995



														1	1	0	0	0	0												0	0	0	
6	11	11	8	8	3			0	0	0				4	12	6	1	1	0	0	0						0				4	7	24	17	3
8	14	17	16	24	16	1	0		0	3	0		4	11	17	13	1	1	6			0	0	1	1	0		1	1	9	6	21	21	18	18
30	20	18	25	34	22	3	0	4	6	3	0	0	5	8	12	4	0	0	0	0		0	0	1	2	3	3	2	3	12	14	24	37	47	42
36	19	15	17	20	11	5	5	5	4	4	0	1	2	1	0		0		0			2	6	5	6	7	10	10	23	15	32	38	51	58	51
28	21	27	25	24	25	19	14	9	3	0		0	3	5	9	10	4	0	0	0	0	4	6	9	9	4	3	5	6	10	12	12	12	15	19
25	17	33	42	43	48	51	46	36	12	0			0	13	56	60	32	4		0	0	6	8	11	9	11	7	7	9	9	0		5	9	16
19	4	7	21	33	40	47	46	42	18	2			0	20	46	61	45	10	1	1	1	3	19	25	26	22	48	46	23	6	2	11	31	26	21
24	12	10	12	11	15	28	26	25	18	5			1	5	18	28	23	10	2	0	3	4	5	18	21	24	69	99	38	2			14	31	31
9	13	12	13	13	9	8	11	13	15	6			2	5	7	9	13	13	11	6	9	4	0	4	13	18	23	52	41	32	36	5	15	30	18
4	8	8	7	8	6	5	7	8	6	2				3	7	11	12	12	13	8	3						0	4	24	33	32	28	28	21	0
															0	0	0	0	0	0															

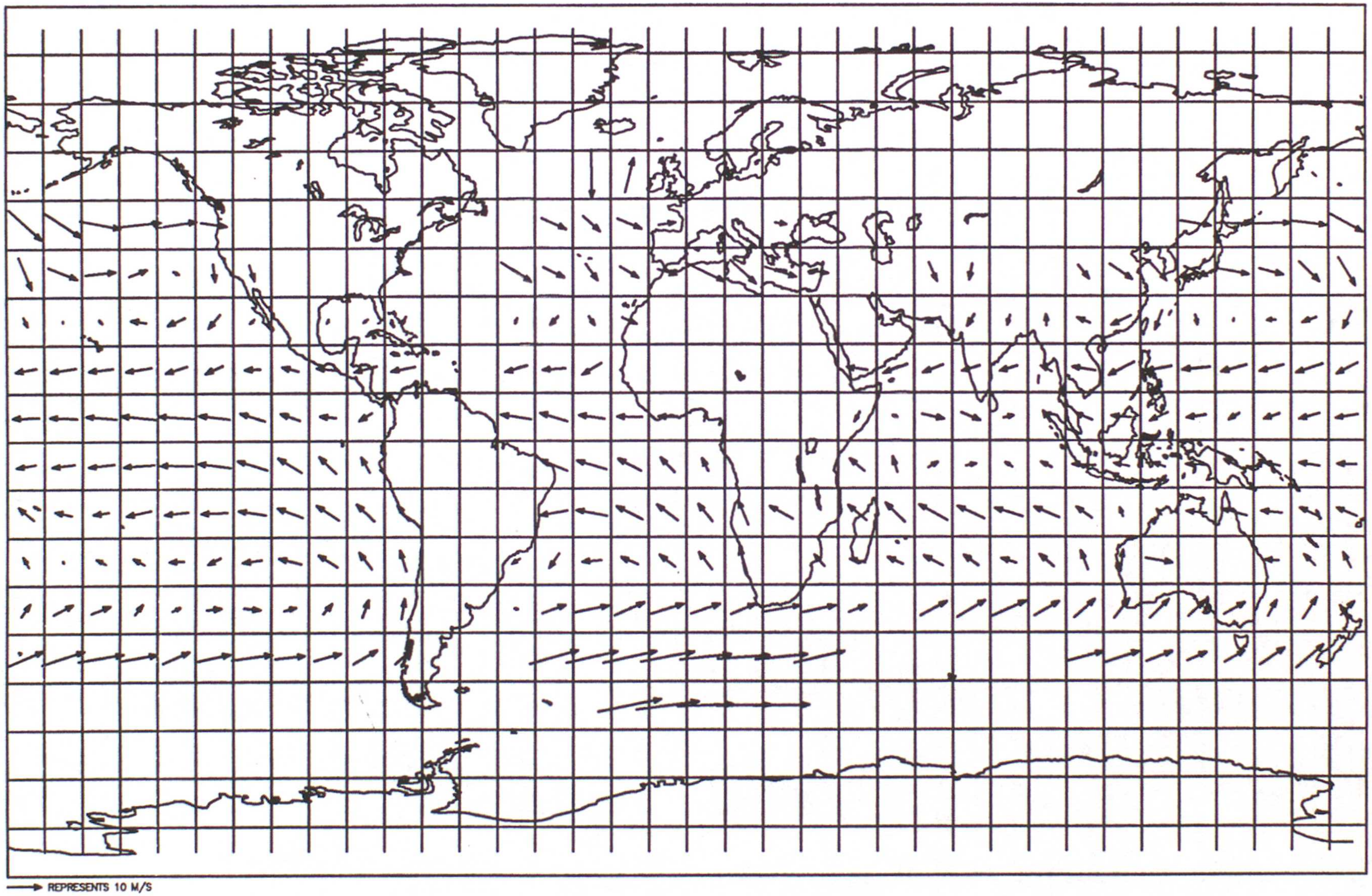
SATOB VECTOR MEAN WINDS BETWEEN 701–1000 HPA

NOVEMBER 1995

ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

FIGURE 11


REPRESENTS 10 M/S

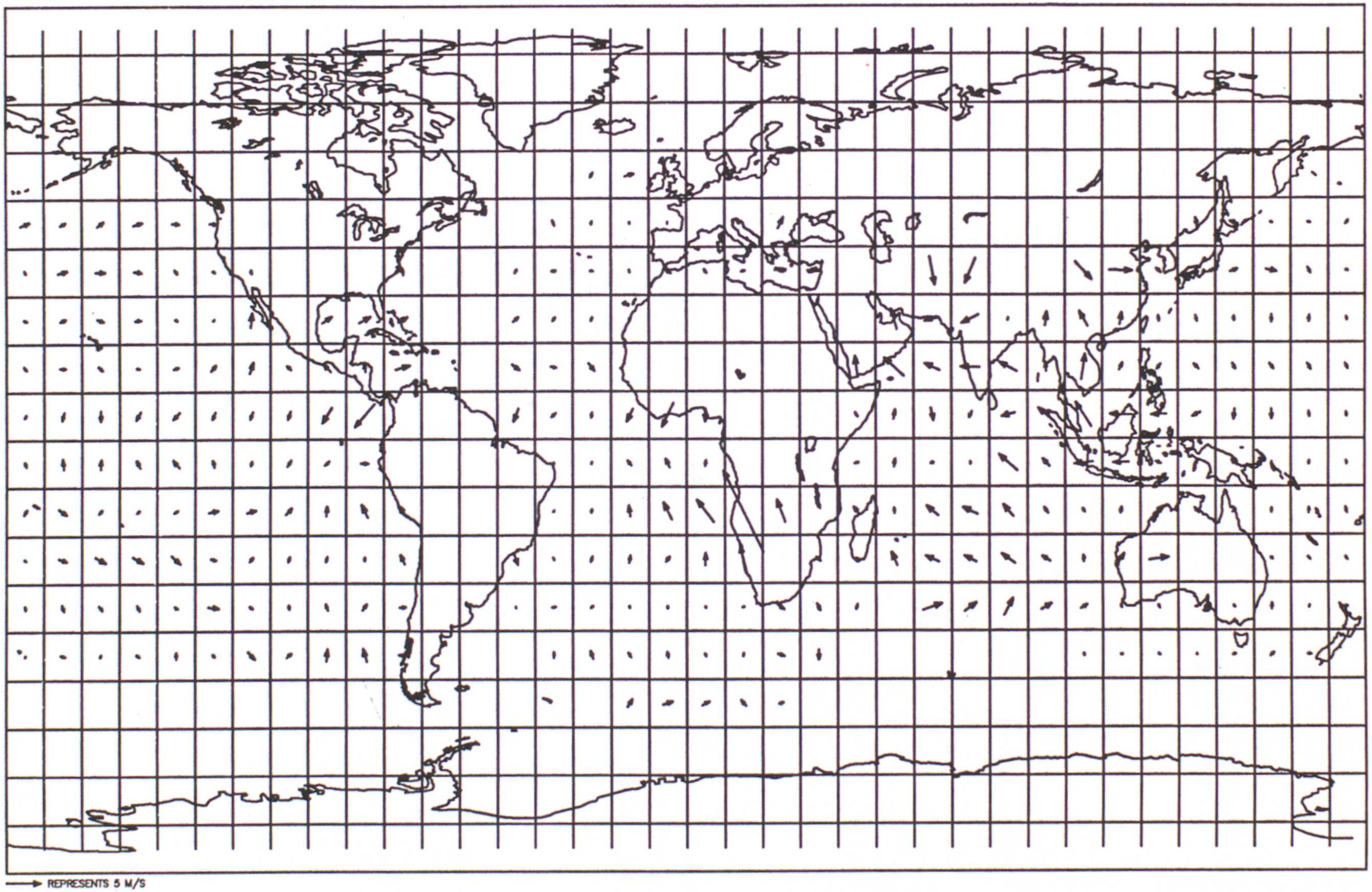
SATOB O–B VECTOR WIND DIFFERENCES BETWEEN 701–1000 HPA

NOVEMBER 1995

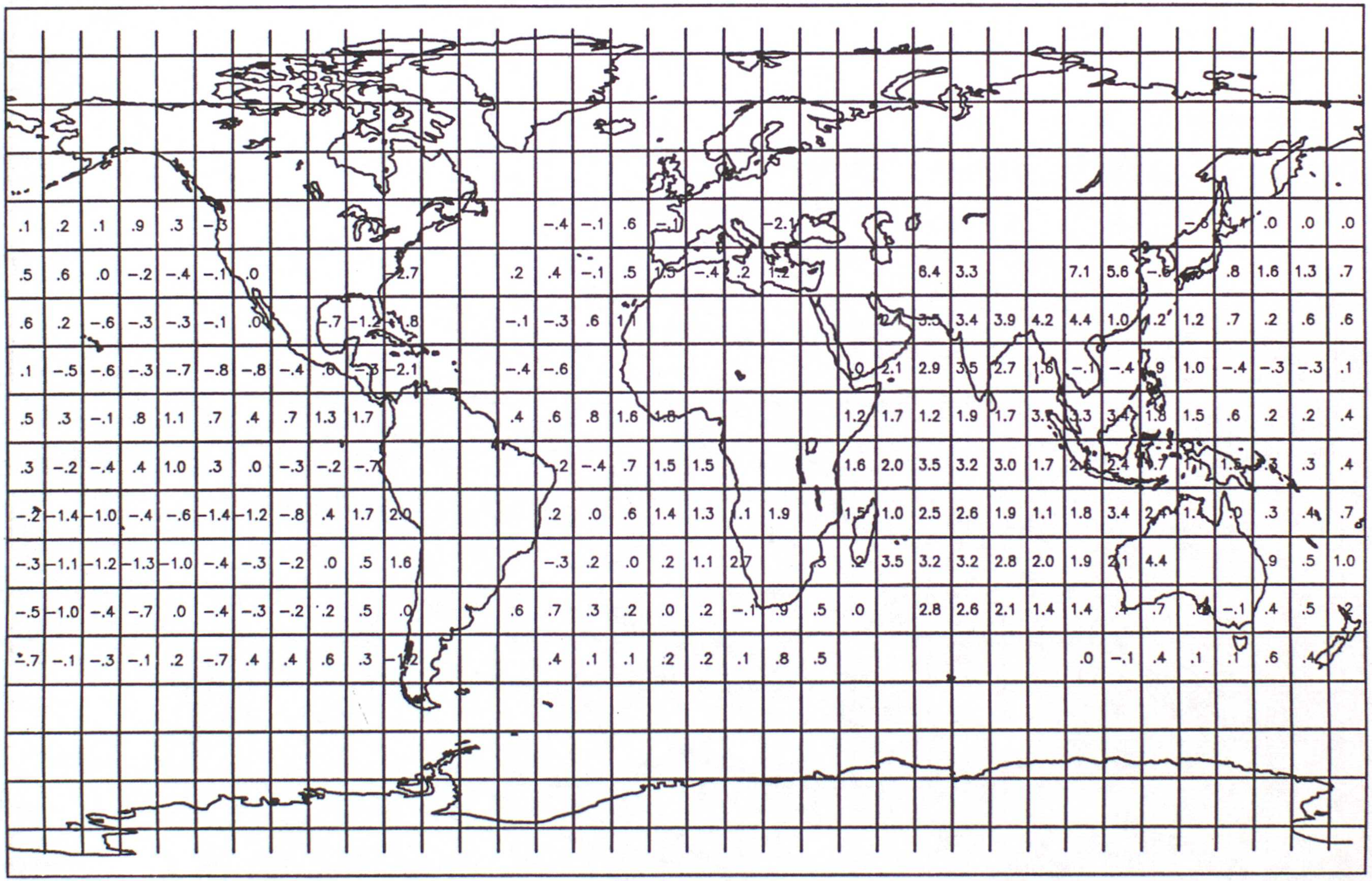
ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

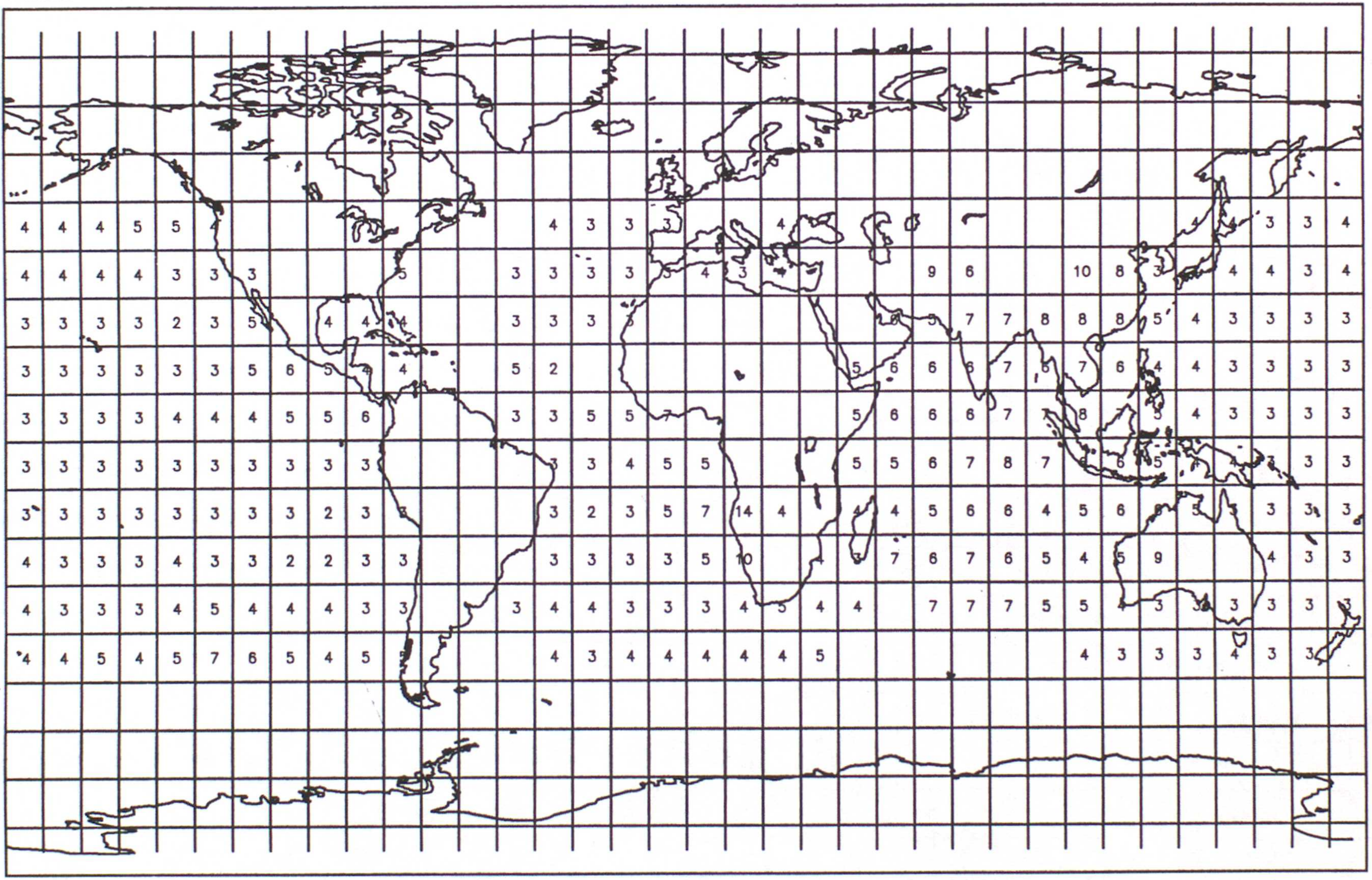
FIGURE 12



SATOBS : MEAN O−B SPEED DIFFERENCES (M/S) BETWEEN 701 AND 1000 HPA FIGURE 13
NOVEMBER 1995
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


.1 .2 .1 .9 .3 −.3 −.4 −.1 .6 −.1 −2.1 −.6 .1 .0 .0 .0
.5 .6 .0 −.2 −.4 −.1 .0 2.7 .2 .4 −.1 .5 1.5 −.4 .2 1.2 6.4 3.3 7.1 5.6 −.6 .8 1.6 1.3 .7
.6 .2 −.6 −.3 −.3 −.1 .0 −.7 −1.2 1.8 −.1 −.3 .6 1.1 2.1 3.5 3.4 3.9 4.2 4.4 1.0 1.2 1.2 .7 .2 .6 .6
.1 −.5 −.6 −.3 −.7 −.8 −.8 −.4 .6 −.3 −2.1 −.4 −.6 .0 2.1 2.9 3.5 2.7 1.6 −.1 −.4 .9 1.0 −.4 −.3 −.3 .1
.5 .3 −.1 .8 1.1 .7 .4 .7 1.3 1.7 .4 .6 .8 1.6 1.8 1.2 1.7 1.2 1.9 1.7 3.5 3.3 3.4 1.8 1.5 .6 .2 .2 .4
.3 −.2 −.4 .4 1.0 .3 .0 −.3 −.2 −.7 .2 −.4 .7 1.5 1.5 1.6 2.0 3.5 3.2 3.0 1.7 2.6 2.4 1.7 1.1 1.5 .3 .3 .4
−.2 −1.4 −1.0 −.4 −.6 −1.4 −1.2 −.8 .4 1.7 2.0 .2 .0 .6 1.4 1.3 1.1 1.9 1.5 1.0 2.5 2.6 1.9 1.1 1.8 3.4 2.4 1.4 .0 .3 .4 .7
−.3 −1.1 −1.2 −1.3 −1.0 −.4 −.3 −.2 .0 .5 1.6 −.3 .2 .0 .2 1.1 2.7 .3 .2 3.5 3.2 3.2 2.8 2.0 1.9 2.1 4.4 .9 .5 1.0
−.5 −1.0 −.4 −.7 .0 −.4 −.3 −.2 .2 .5 .0 .6 .7 .3 .2 .0 .2 −.1 .9 .5 .0 2.8 2.6 2.1 1.4 1.4 .4 .7 .6 −.1 .4 .5 .2
−.7 −.1 −.3 −.1 .2 −.7 .4 .4 .6 .3 −1.2 .4 .1 .1 .2 .2 .1 .8 .5 .0 −.1 .4 .1 .1 .6 .4

SATOBS : RMS O–B VECTOR DIFFERENCES (M/S) BETWEEN 701 AND 1000 HPA FIGURE 14
NOVEMBER 1995
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT



AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 401 AND 700 HPA FIGURE 15
NOVEMBER 1995

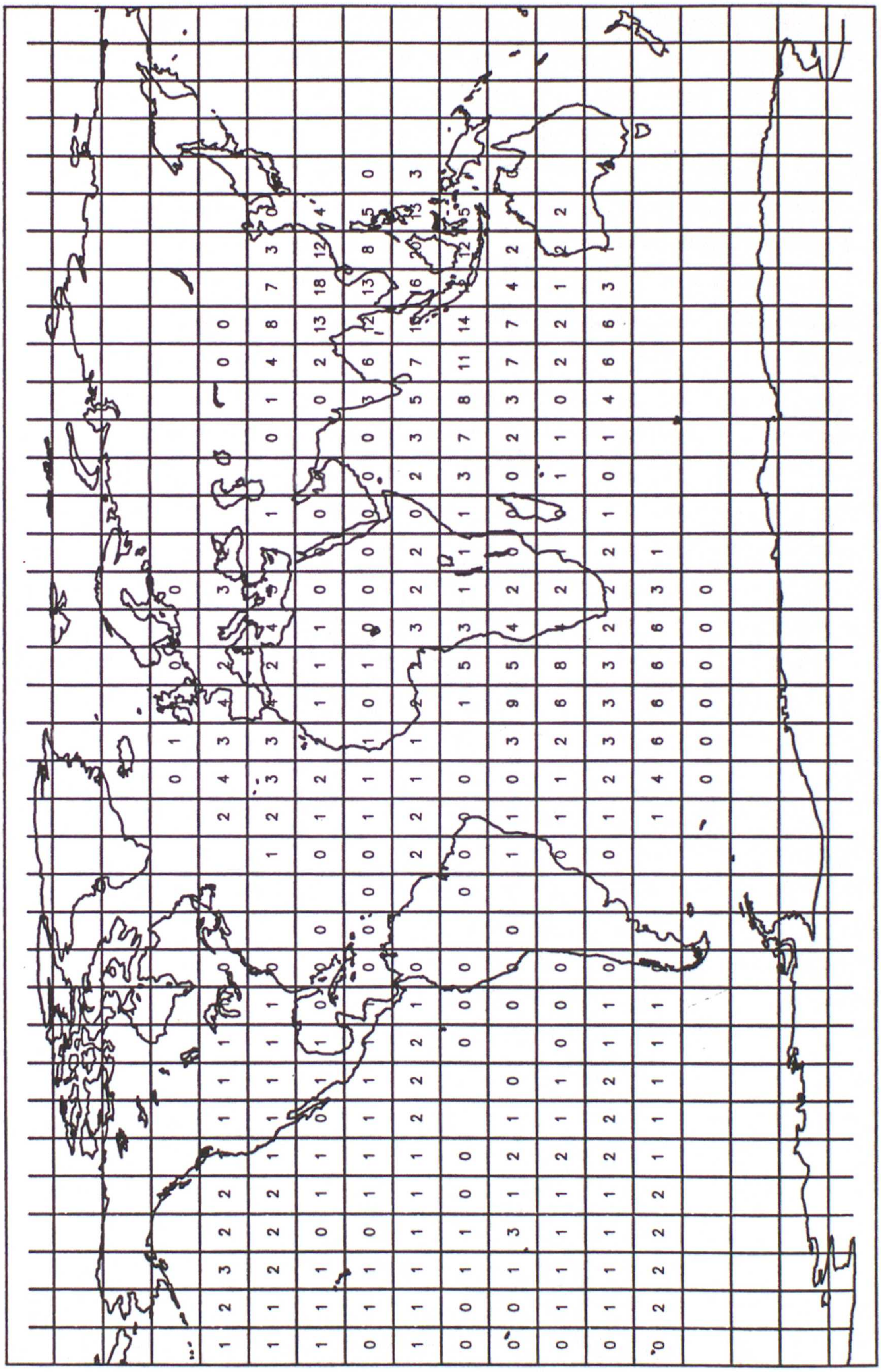
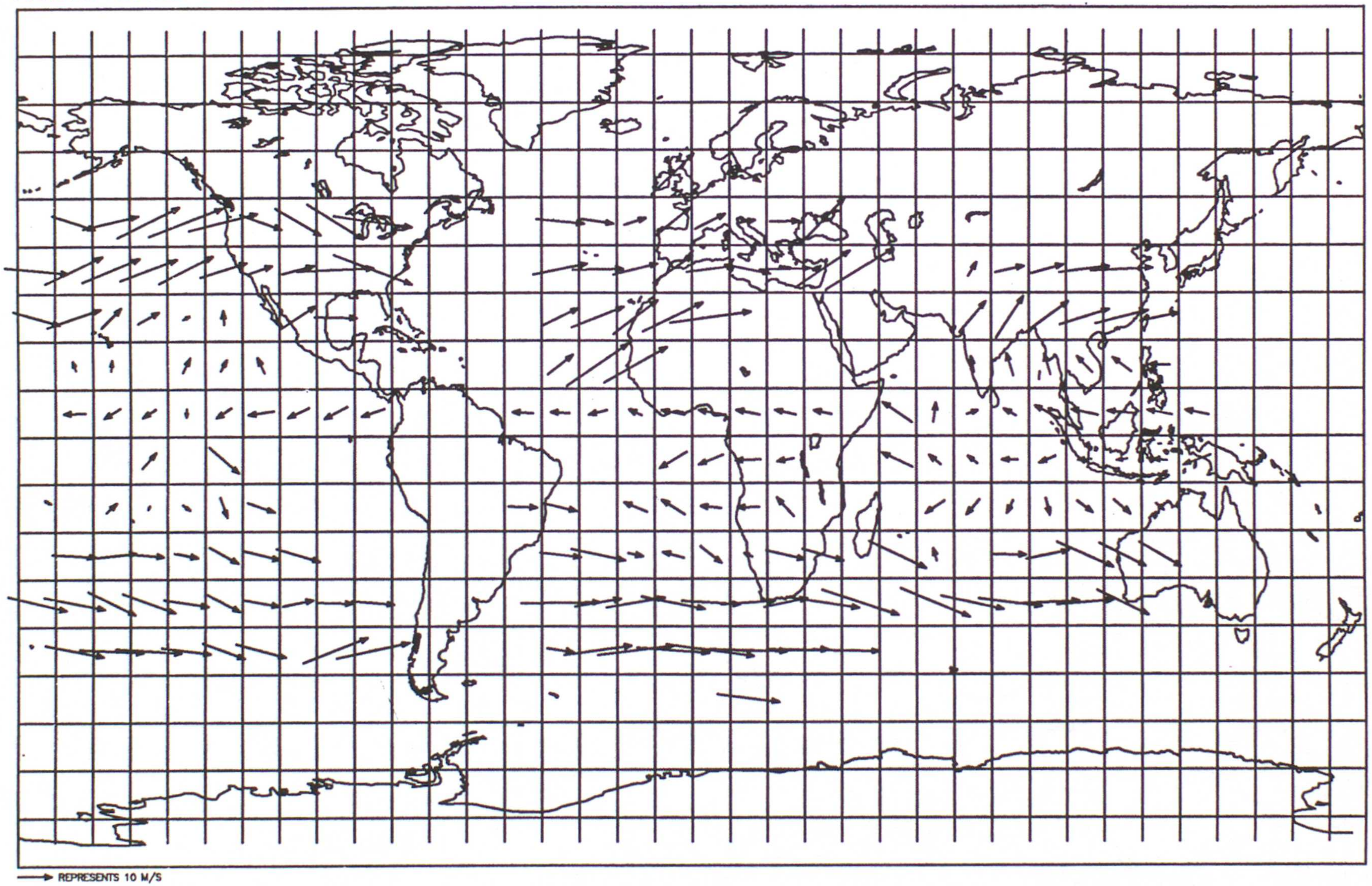


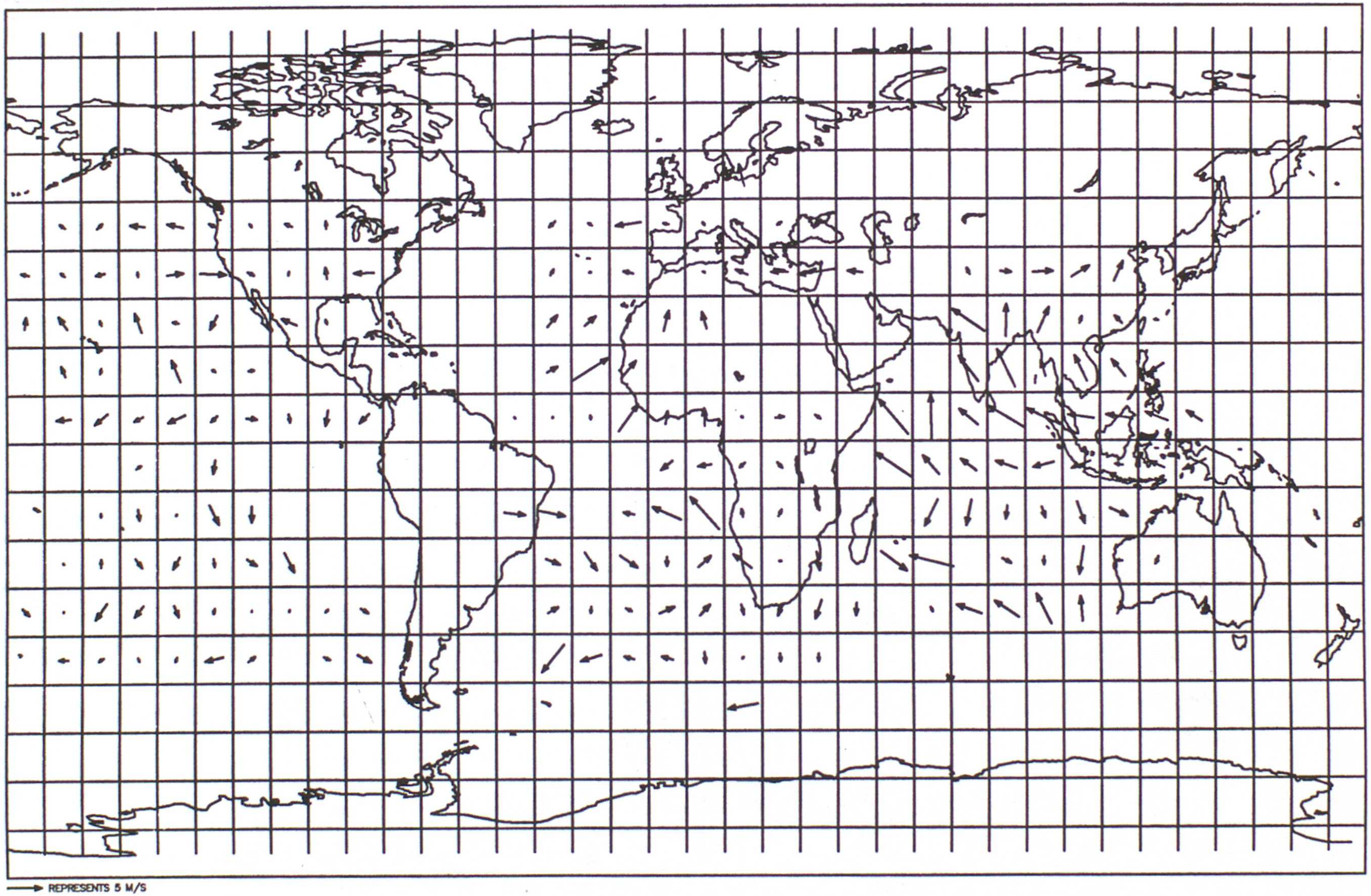
FIGURE 16

SATOB VECTOR MEAN WINDS BETWEEN 401–700 HPA
NOVEMBER 1995
ALL OBSERVATIONS
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

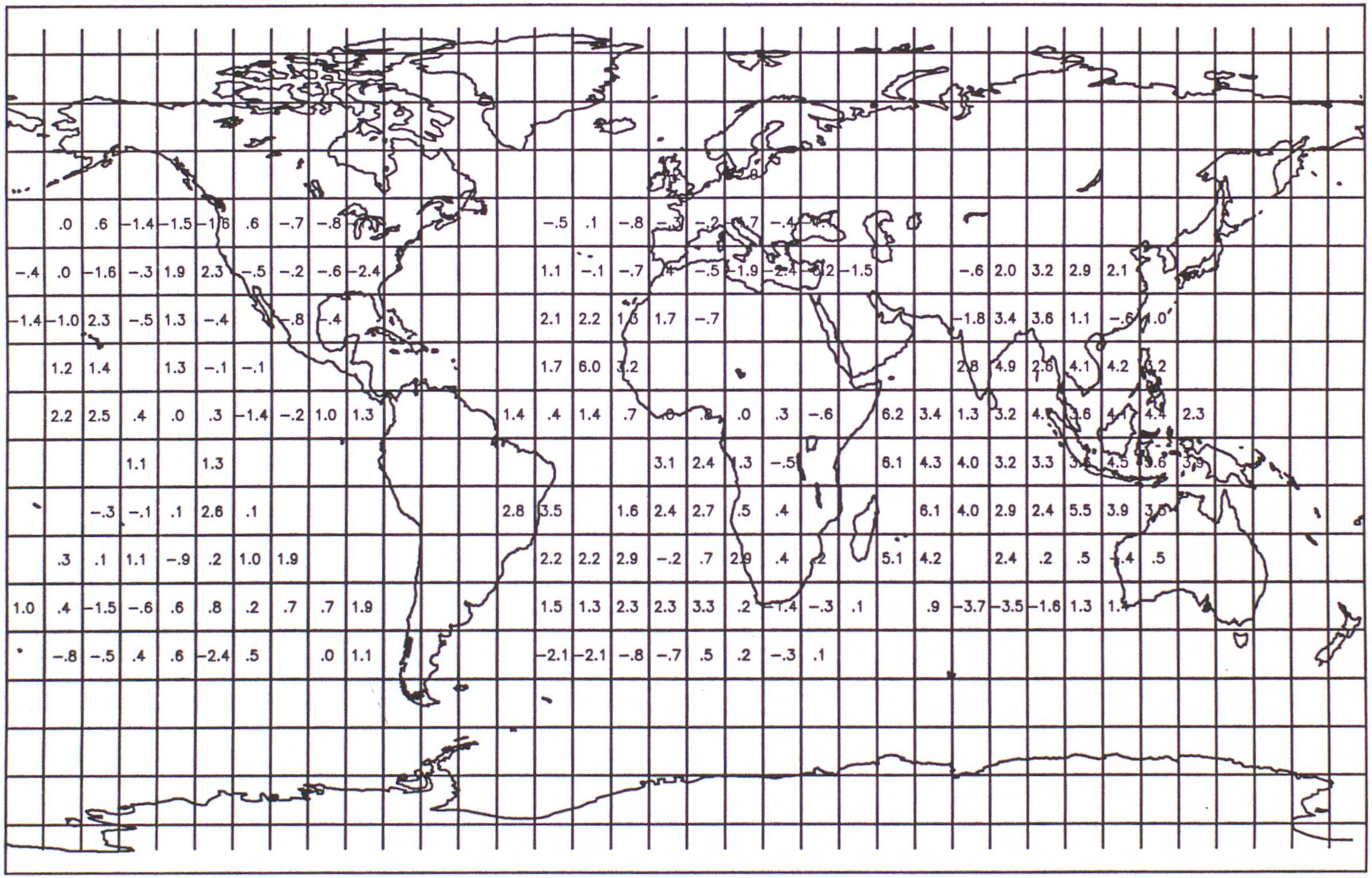

REPRESENTS 10 M/S

SATOB O–B VECTOR WIND DIFFERENCES BETWEEN 401–700 HPA
NOVEMBER 1995
ALL OBSERVATIONS
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

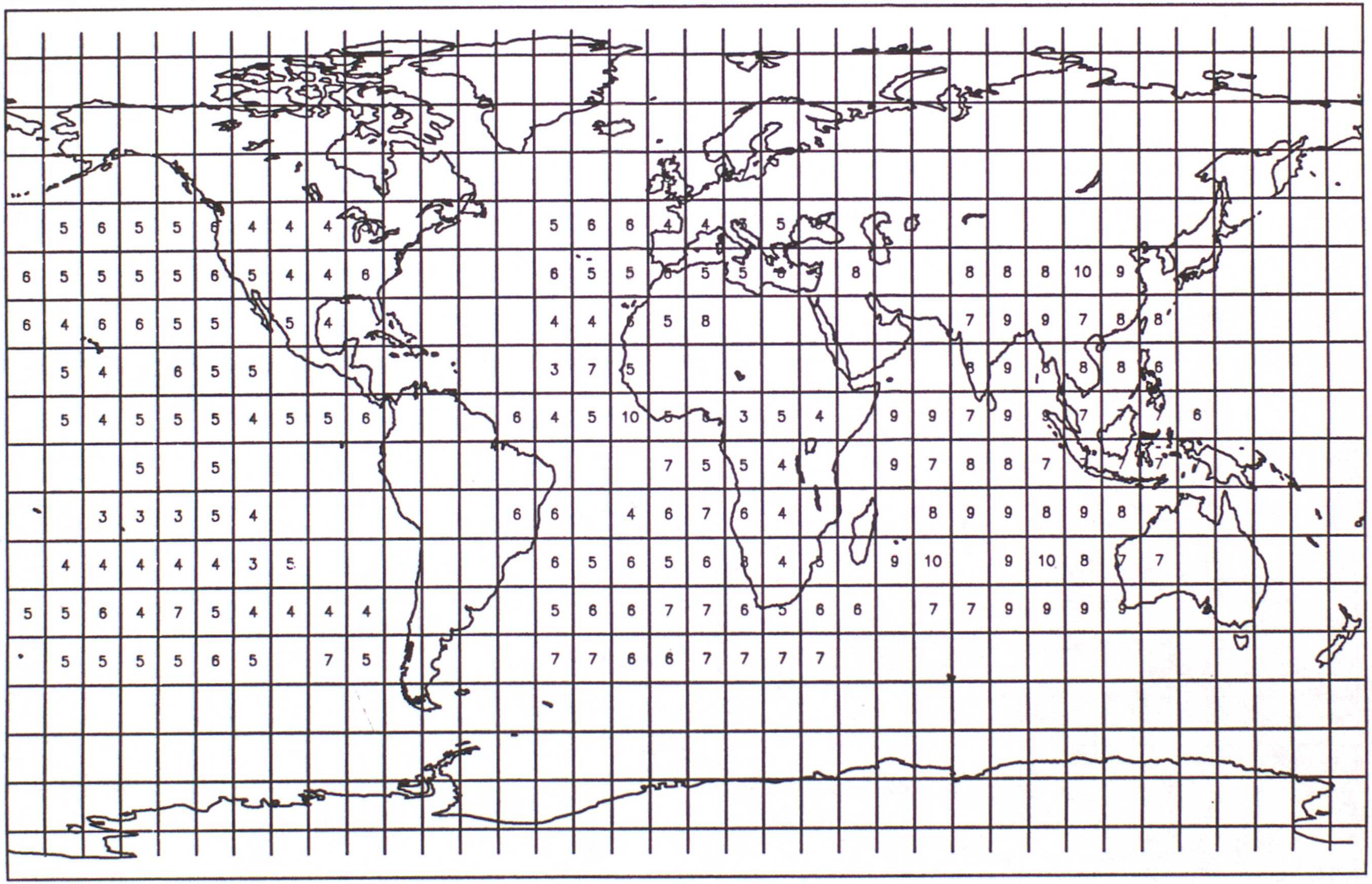
FIGURE 17



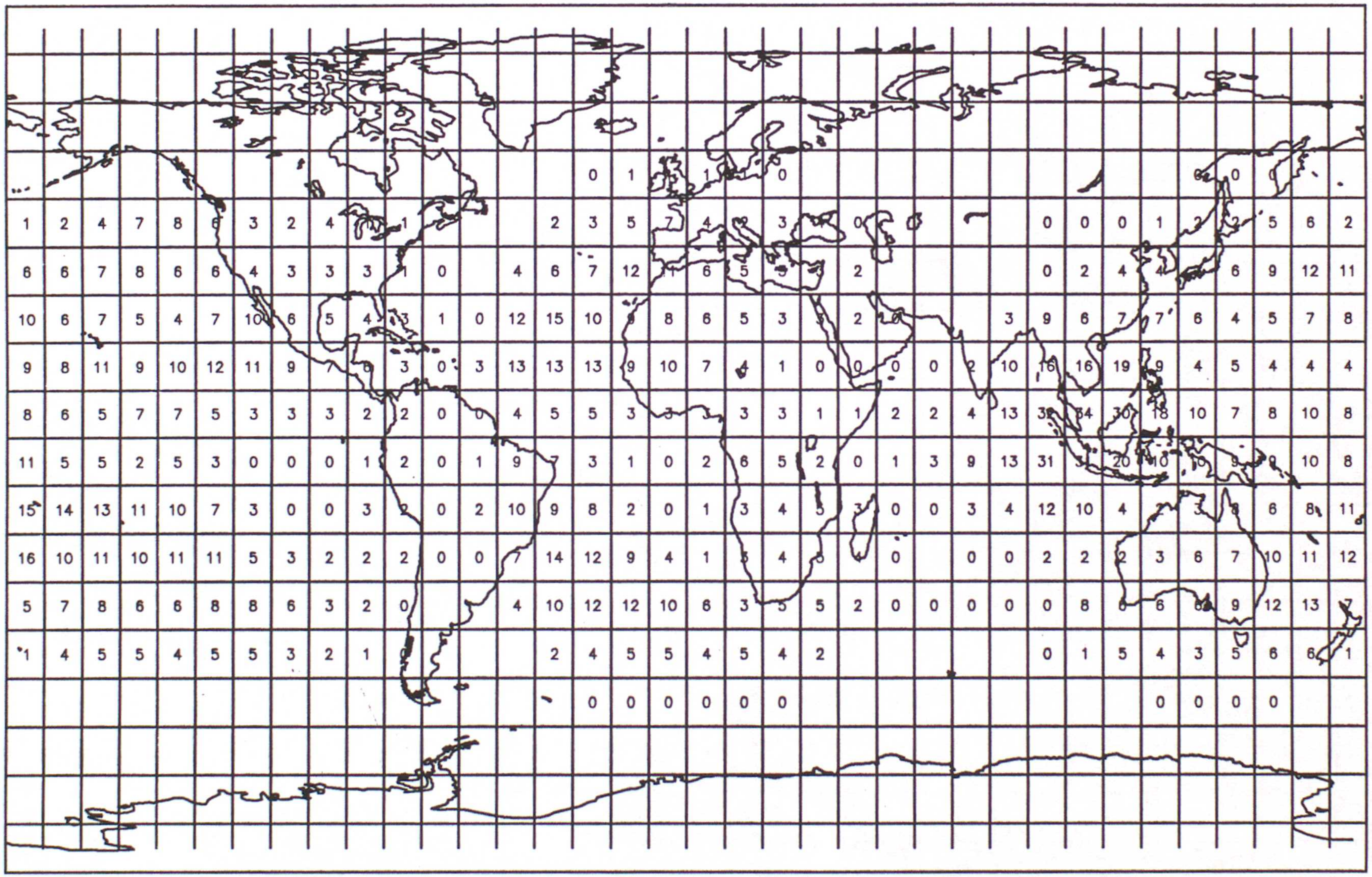
SATOBS : MEAN O−B SPEED DIFFERENCES (M/S) BETWEEN 401 AND 700 HPA FIGURE 18
NOVEMBER 1995
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


.0 .6 −1.4 −1.5 −1.6 .6 −.7 −.8 −.5 .1 −.8 −.3 −.2 −.7 −.4
−.4 .0 −1.6 −.3 1.9 2.3 −.5 −.2 −.6 −2.4 1.1 −.1 −.7 .4 −.5 −1.9 −2.4 −3.2 −1.5 −.6 2.0 3.2 2.9 2.1
−1.4 −1.0 2.3 −.5 1.3 −.4 −.8 −.4 2.1 2.2 1.6 1.7 −.7 −1.8 3.4 3.6 1.1 −.6 1.0
1.2 1.4 1.3 −.1 −.1 1.7 6.0 3.2 2.8 4.9 2.6 4.1 4.2 3.2
2.2 2.5 .4 .0 .3 −1.4 −.2 1.0 1.3 1.4 .4 1.4 .7 .6 .8 .0 .3 −.6 6.2 3.4 1.3 3.2 4.1 3.6 4.1 4.4 2.3
1.1 1.3 3.1 2.4 1.3 −.5 6.1 4.3 4.0 3.2 3.3 3.4 4.5 3.6 3.9
−.3 −.1 .1 2.6 .1 2.8 3.5 1.6 2.4 2.7 .5 .4 6.1 4.0 2.9 2.4 5.5 3.9 3.6
.3 .1 1.1 −.9 .2 1.0 1.9 2.2 2.2 2.9 −.2 .7 2.9 .4 .2 5.1 4.2 2.4 .2 .5 .4 .5
1.0 .4 −1.5 −.6 .6 .8 .2 .7 .7 1.9 1.5 1.3 2.3 2.3 3.3 .2 −1.4 −.3 .1 .9 −3.7 −3.5 −1.6 1.3 1.4
−.8 −.5 .4 .6 −2.4 .5 .0 1.1 −2.1 −2.1 −.8 −.7 .5 .2 −.3 .1

SATOBS : RMS O–B VECTOR DIFFERENCES (M/S) BETWEEN 401 AND 700 HPA FIGURE 19
NOVEMBER 1995
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


5 6 5 5 6 4 4 4 5 6 6 4 4 3 5
6 5 5 5 5 6 5 4 4 6 6 5 5 6 5 5 6 8 8 8 8 10 9
6 4 6 6 5 5 5 4 4 4 5 5 8 7 9 9 7 8 8
5 4 6 5 5 3 7 5 8 9 8 8 8 6
5 4 5 5 5 4 5 5 6 6 4 5 10 5 6 3 5 4 9 9 7 9 9 7 7 6
5 5 7 5 5 4 9 7 8 8 7 7 7
3 3 3 5 4 6 6 4 6 7 6 4 8 9 9 8 9 8 7
4 4 4 4 4 3 5 6 5 6 5 6 8 4 5 9 10 9 10 8 7 7
5 5 6 4 7 5 4 4 4 4 5 6 6 7 7 6 5 6 6 7 7 9 9 9 9
5 5 5 5 6 5 7 5 7 7 6 6 7 7 7 7

AVERAGE DAILY NUMBER OF SATOB OBSERVATIONS BETWEEN 101 AND 400 HPA FIGURE 20
NOVEMBER 1995


0 1 1 0 0
1 2 4 7 8 6 3 2 4 1 2 3 5 7 4 3 0 0 0 0 1 2 2 5 6 2
6 6 7 8 6 6 4 3 3 3 1 0 4 6 7 12 1 6 5 5 3 2 0 2 4 4 6 9 12 11
10 6 7 5 4 7 10 6 5 4 3 1 0 12 15 10 9 8 6 5 3 5 2 0 3 9 6 7 7 6 4 5 7 8
9 8 11 9 10 12 11 9 7 6 3 0 3 13 13 13 9 10 7 4 1 0 0 0 0 2 10 16 16 19 9 4 5 4 4 4
8 6 5 7 7 5 3 3 3 2 2 0 0 4 5 5 3 3 3 3 3 1 1 2 2 4 13 35 34 30 18 10 7 8 10 8
11 5 5 2 5 3 0 0 0 1 2 0 1 9 7 3 1 0 2 6 5 2 0 1 3 9 13 31 31 20 10 10 9 9 10 8
15 14 13 11 10 7 3 0 0 3 2 0 2 10 9 8 2 0 1 3 4 3 3 0 0 3 4 12 10 4 2 3 8 6 8 11
16 10 11 10 11 11 5 3 2 2 2 0 0 7 14 12 9 4 1 3 4 3 4 0 0 0 2 2 2 3 6 7 10 11 12
5 7 8 6 6 8 8 6 3 2 0 4 10 12 12 10 6 3 5 5 2 0 0 0 0 0 8 6 6 6 9 12 13 7
1 4 5 5 4 5 5 3 2 1 0 2 4 5 5 4 5 4 2 0 1 5 4 3 5 6 6 1
0 0 0 0 0 0 0 0 0 0

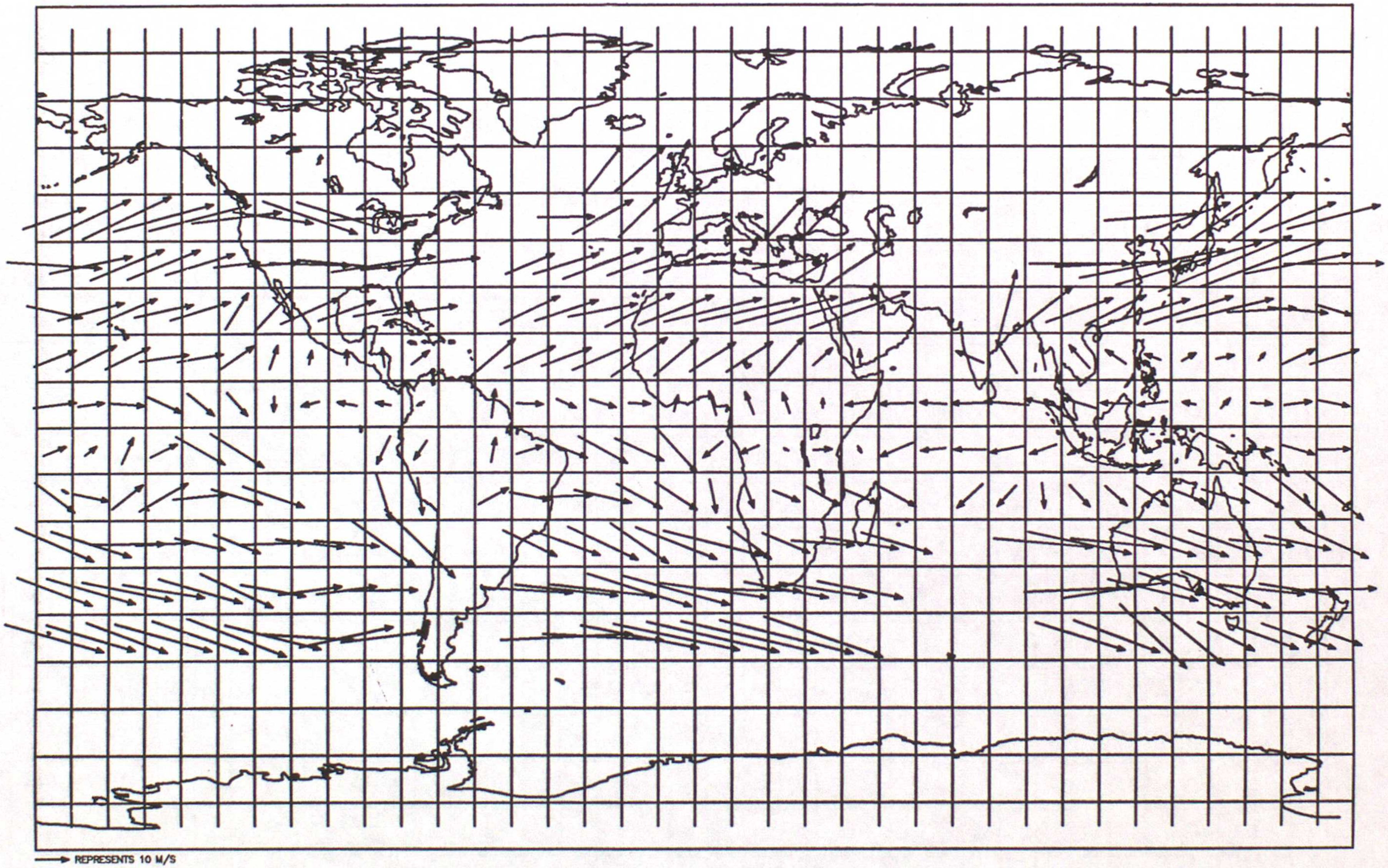
SATOB VECTOR MEAN WINDS BETWEEN 101–400 HPA

FIGURE 21

NOVEMBER 1995

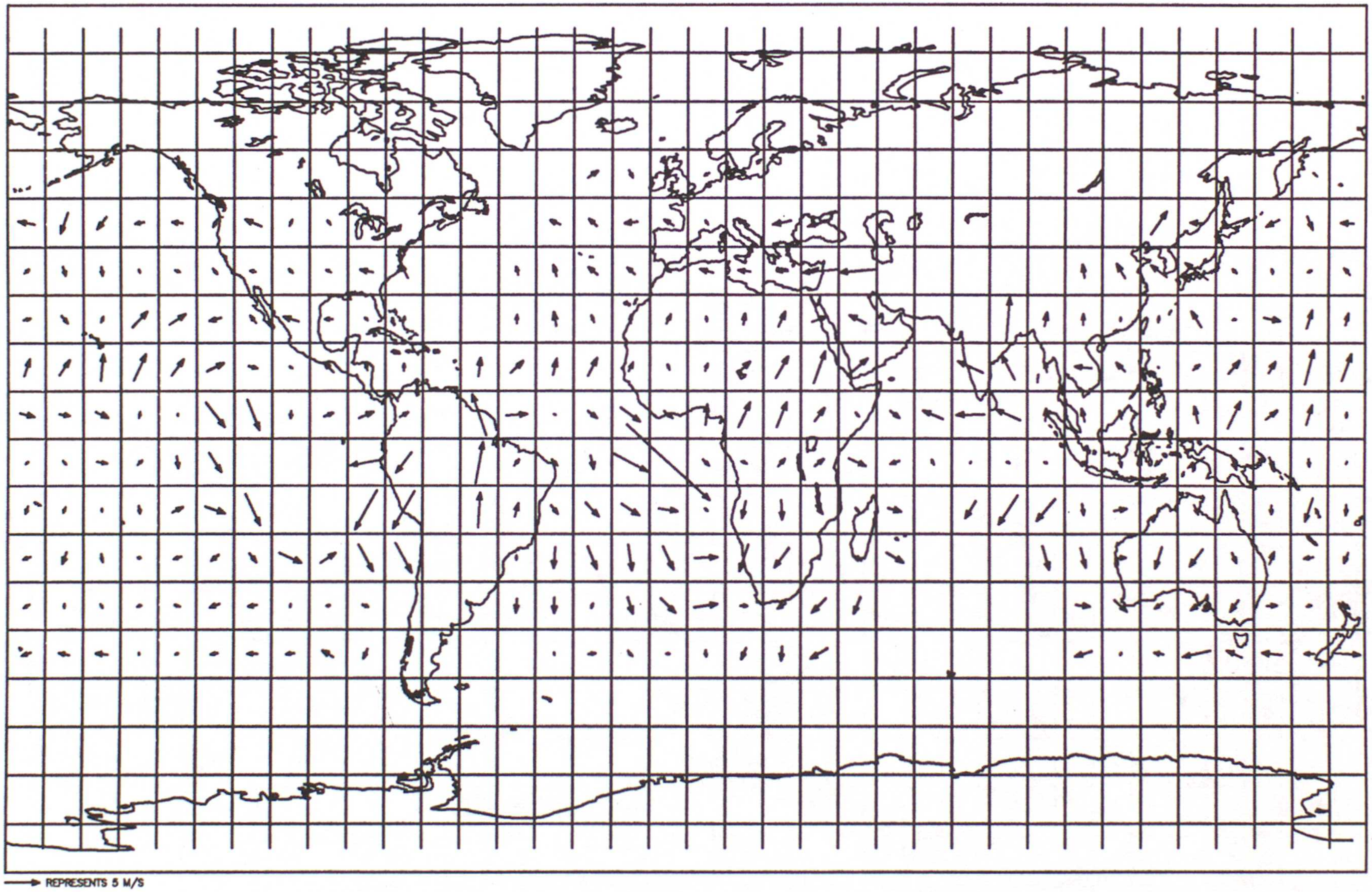
ALL OBSERVATIONS

ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

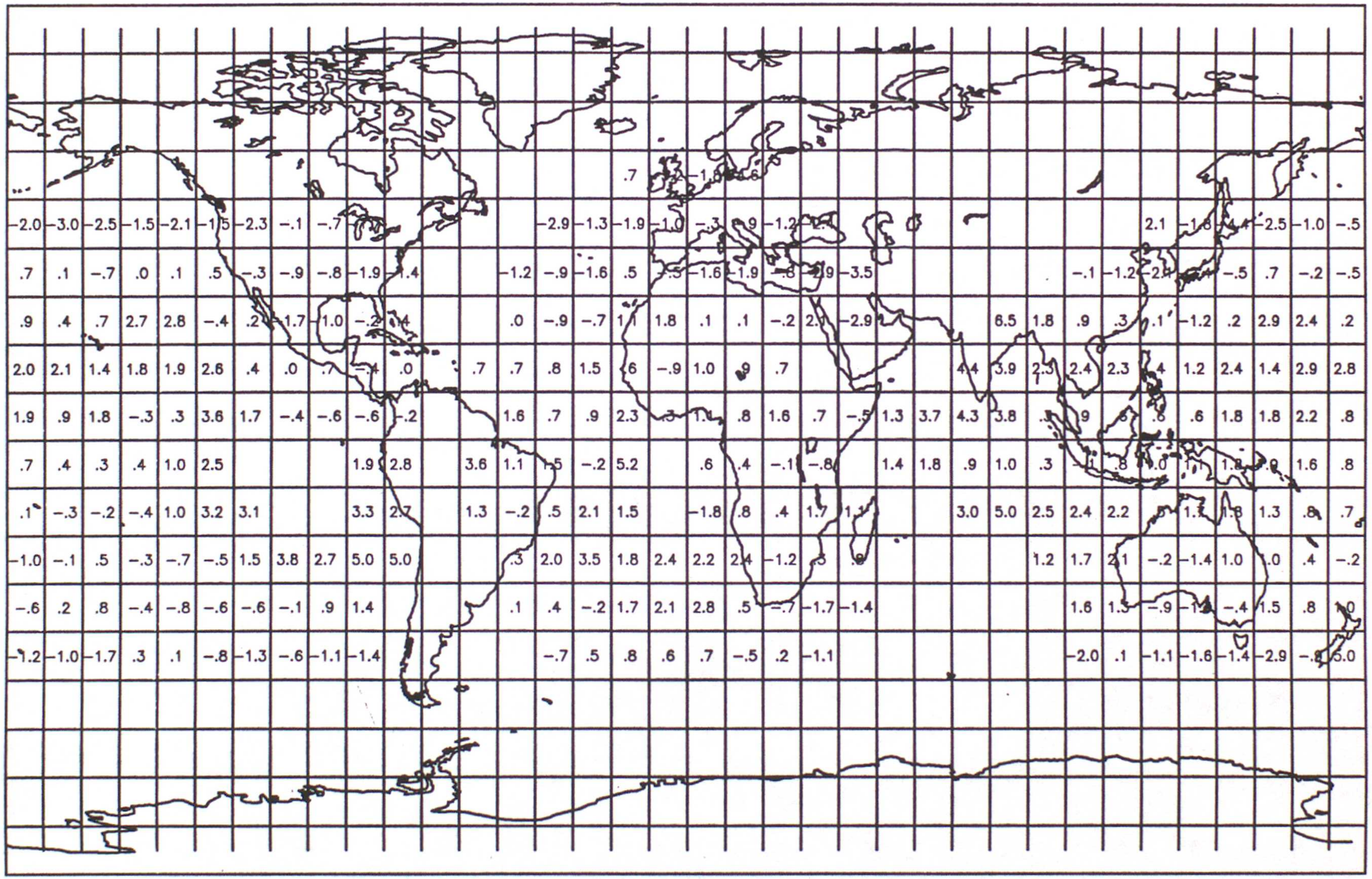

REPRESENTS 10 M/S

SATOB O−B VECTOR WIND DIFFERENCES BETWEEN 101−400 HPA
NOVEMBER 1995
ALL OBSERVATIONS
ARROWS PLOTTED WHERE MORE THAN 10 OBS ARE PRESENT

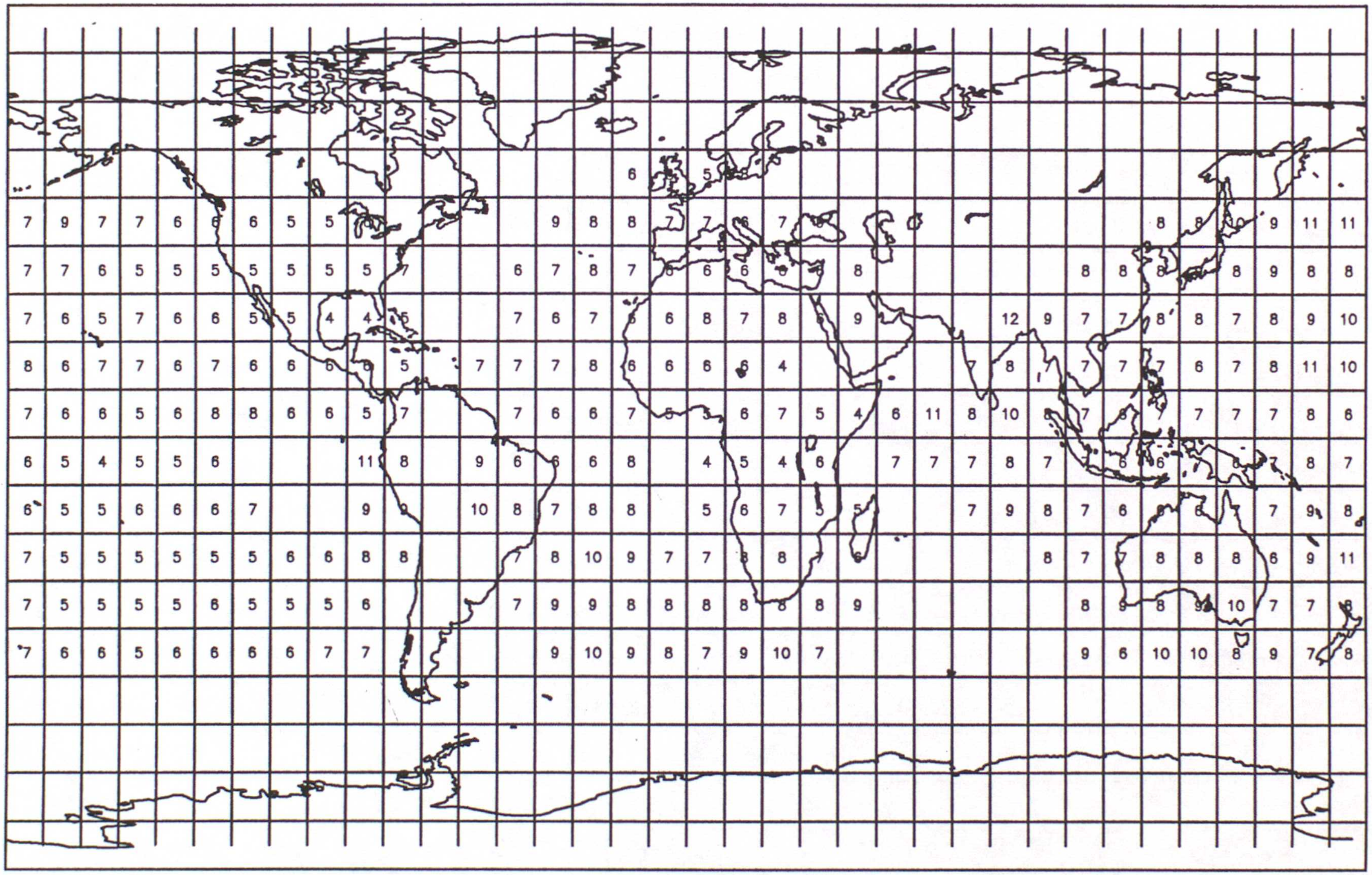
FIGURE 22



SATOBS : MEAN O–B SPEED DIFFERENCES (M/S) BETWEEN 101 AND 400 HPA FIGURE 23
NOVEMBER 1995
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


.7 -1.6 .6
-2.0 -3.0 -2.5 -1.5 -2.1 -1.5 -2.3 -.1 -.7 -2.9 -1.3 -1.9 -1.0 -.3 .9 -1.2 2.1 -1.6 4.4 -2.5 -1.0 -.5
.7 .1 -.7 .0 .1 .5 -.3 -.9 -.8 -1.9 1.4 -1.2 -.9 -1.6 .5 .5 -1.6 -1.9 -.8 2.9 -3.5 -.1 -1.2 -2.1 -.5 .7 -.2 -.5
.9 .4 .7 2.7 2.8 -.4 .2 -1.7 -1.0 -.2 .4 .0 -.9 -.7 1.1 1.8 .1 .1 -.2 2.1 -2.9 6.5 1.8 .9 .3 .1 -1.2 .2 2.9 2.4 .2
2.0 2.1 1.4 1.8 1.9 2.6 .4 .0 .7 .4 .0 .7 .7 .8 1.5 .6 -.9 1.0 .9 .7 4.4 3.9 2.3 2.4 2.3 .4 1.2 2.4 1.4 2.9 2.8
1.9 .9 1.8 -.3 .3 3.6 1.7 -.4 -.6 -.6 -.2 1.6 .7 .9 2.3 -.3 1.1 .8 1.6 .7 -.5 1.3 3.7 4.3 3.8 .3 .9 .6 .6 .6 1.8 1.8 2.2 .8
.7 .4 .3 .4 1.0 2.5 1.9 2.8 3.6 1.1 1.5 -.2 5.2 .6 .4 -.1 -.8 1.4 1.8 .9 1.0 .3 -.1 .8 1.0 1.1 1.8 .9 1.6 .8
.1 -.3 -.2 -.4 1.0 3.2 3.1 3.3 2.7 1.3 -.2 .5 2.1 1.5 -1.8 .8 .4 1.7 1.1 3.0 5.0 2.5 2.4 2.2 .5 1.1 1.8 1.3 .8 .7
-1.0 -.1 .5 -.3 -.7 -.5 1.5 3.8 2.7 5.0 5.0 .3 2.0 3.5 1.8 2.4 2.2 2.4 -1.2 .3 .9 1.2 1.7 2.1 -.2 -1.4 1.0 1.0 .4 -.2
-.6 .2 .8 -.4 -.8 -.6 -.6 -.1 .9 1.4 .1 .4 -.2 1.7 2.1 2.8 .5 -.7 -1.7 -1.4 1.6 1.5 -.9 -1.4 -.4 1.5 .8 1.0
-1.2 -1.0 -1.7 .3 .1 -.8 -1.3 -.6 -1.1 -1.4 -.7 .5 .8 .6 .7 -.5 .2 -1.1 -2.0 .1 -1.1 -1.6 -1.4 -2.9 -.8 5.0

SATOBS : RMS O–B VECTOR DIFFERENCES (M/S) BETWEEN 101 AND 400 HPA FIGURE 24
NOVEMBER 1995
USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 10 OBS ARE PRESENT


6 5
7 9 7 7 6 6 6 5 5 9 8 8 7 7 6 7 6 8 8 10 9 11 11
7 7 6 5 5 5 5 5 5 5 7 6 7 8 7 6 6 6 6 6 8 8 8 8 8 9 8 8
7 6 5 7 6 6 5 5 4 4 5 7 6 7 6 6 8 7 8 6 9 12 9 7 7 8 8 7 8 9 10
8 6 7 7 6 7 6 6 6 6 5 7 7 7 8 6 6 6 6 4 7 8 7 7 7 7 6 7 8 11 10
7 6 6 5 6 8 8 6 6 5 7 7 6 6 7 5 3 6 7 5 4 6 11 8 10 8 7 6 7 7 7 7 8 6
6 5 4 5 5 6 11 8 9 6 6 6 8 4 5 4 6 7 7 7 8 7 7 6 6 7 8 7 8 7
6 5 5 6 6 6 7 9 9 10 8 7 8 8 5 6 7 5 5 7 9 8 7 6 6 6 7 7 9 8
7 5 5 5 5 5 5 6 6 8 8 7 8 10 9 7 7 8 8 7 6 8 7 7 8 8 8 6 9 11
7 5 5 5 5 6 5 5 5 6 7 9 9 8 8 8 8 8 8 9 8 9 8 9 10 7 7 8
7 6 6 5 6 6 6 6 7 7 9 10 9 8 7 9 10 7 9 6 10 10 8 9 7 8

MONITORING OF SATELLITE TEMPERATURES

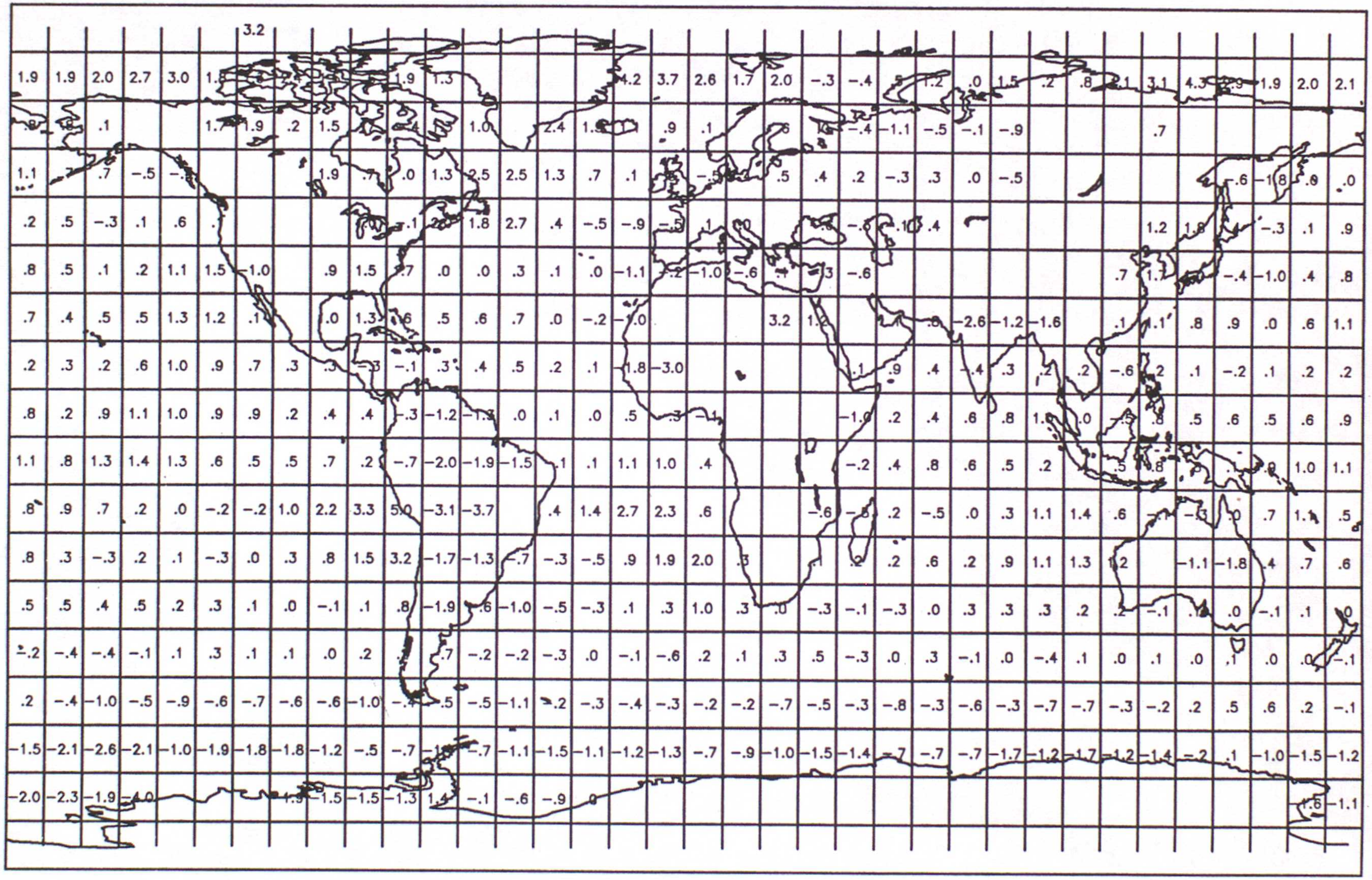
MONITORING CENTRE: BRACKNELL

MONTH: Nov, 95

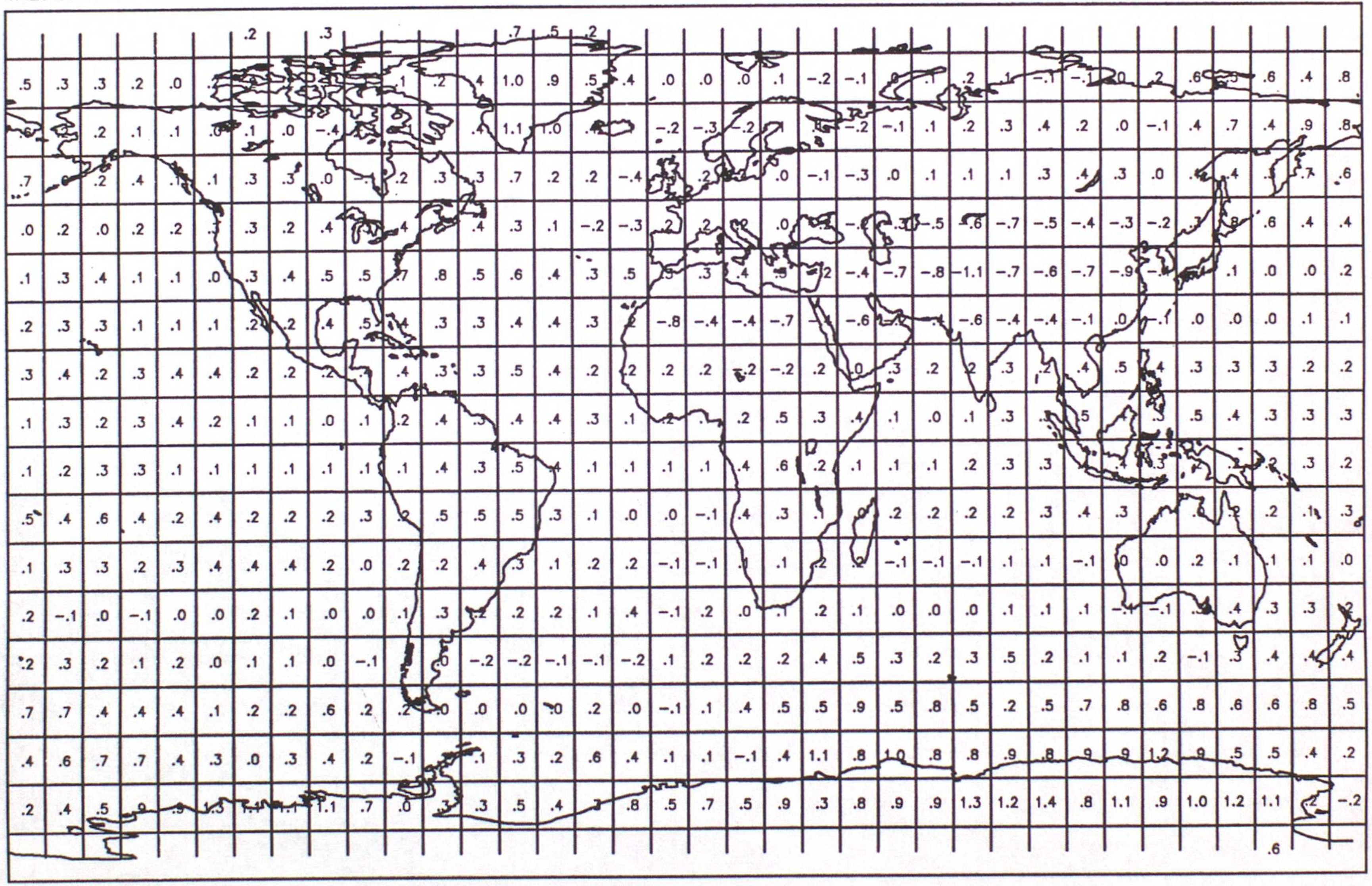
Monitoring procedures

Period	:One calendar month.
Data monitored	:Reports from NOAA-12, NOAA-14 500 km.
Standard of comparison	:Background field from Bracknell global model.
Selection Criteria	:All SATEM soundings where number of observations > 30.
Data Extracted	:Layer:850 - 1000 hPa 100 - 300 hPa 30 - 50 hPa
	:Mean observation minus background temperature differences

500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 850 TO 1000 HPA
NOVEMBER 1995
FIGURE 25
NOAA–12, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

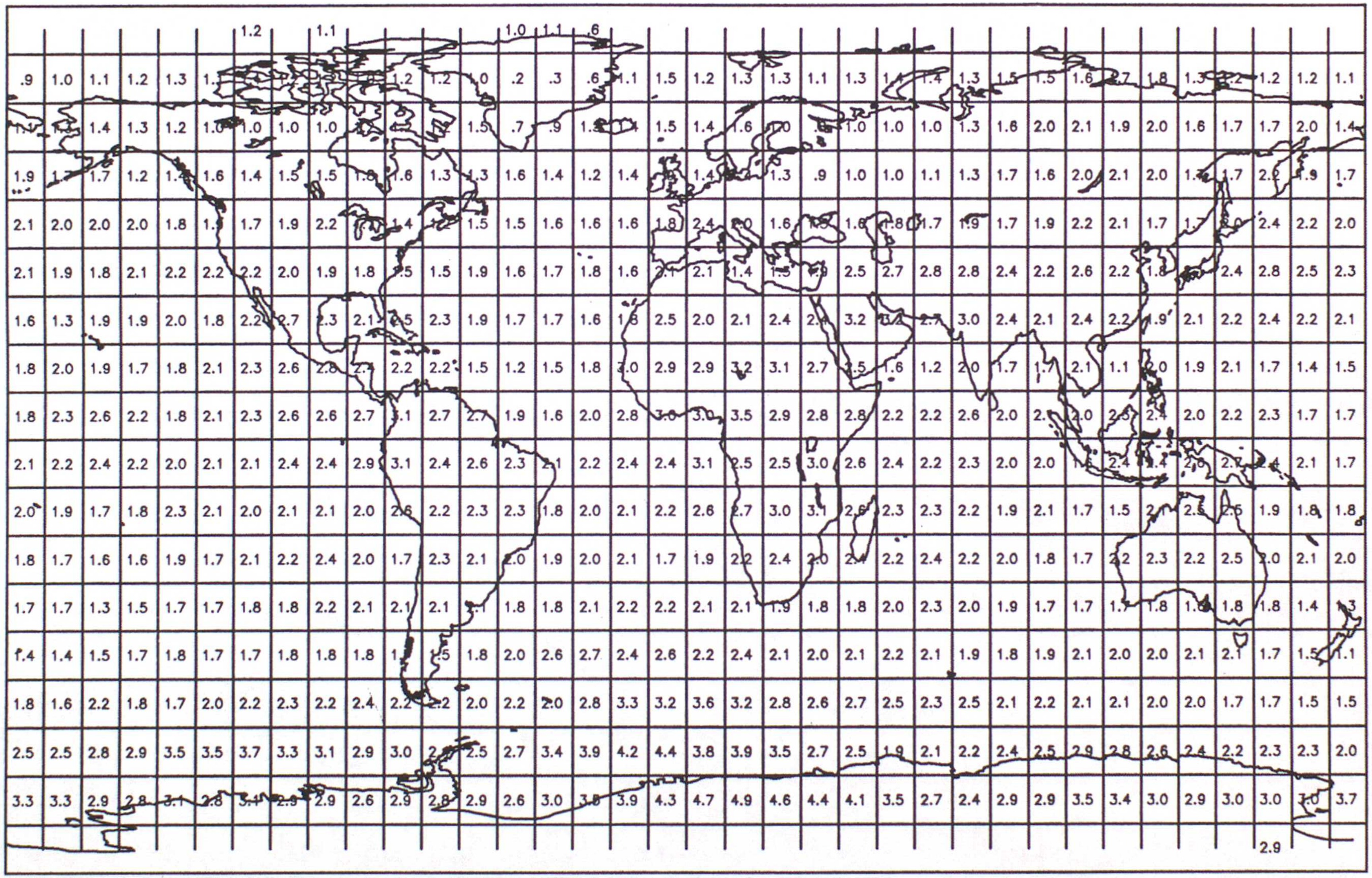

3.2
1.9 1.9 2.0 2.7 3.0 1.9 1.3 4.2 3.7 2.6 1.7 2.0 -.3 -.4 1.2 .0 1.5 .2 .8 3.1 1.9 2.0 2.1
.1 1.9 .2 1.5 1.0 2.4 .9 .1 -.4 -1.1 -.5 -.1 -.9 .7
1.1 .7 -.5 1.9 .0 1.3 2.5 2.5 1.3 .7 .1 .5 .4 .2 -.3 .3 .0 -.5 -.6 .0
.2 .5 -.3 .1 .6 1.8 2.7 .4 -.5 -.9 .1 .4 1.2 -.3 .1 .9
.8 .5 .1 .2 1.1 1.5 -1.0 .9 1.5 .0 .0 .3 .1 .0 -1.1 -1.0 -.6 -.6 .7 -.4 -1.0 .4 .8
.7 .4 .5 .5 1.3 1.2 .0 1.3 .5 .6 .7 .0 -.2 3.2 -2.6 -1.2 -1.6 .1 .8 .9 .0 .6 1.1
.2 .3 .2 .6 1.0 .9 .7 .3 -.1 .4 .5 .2 .1 -1.8 -3.0 .9 .4 .3 .2 -.6 .1 -.2 .1 .2 .2
.8 .2 .9 1.1 1.0 .9 .9 .2 .4 .4 -.3 -1.2 .0 .1 .0 .5 .2 .4 .6 .8 .0 .5 .6 .5 .6 .9
1.1 .8 1.3 1.4 1.3 .6 .5 .5 .7 .2 -.7 -2.0 -1.9 -1.5 .1 1.1 1.0 .4 -.2 .4 .8 .6 .5 .2 1.0 1.1
.8 .9 .7 .2 .0 -.2 -.2 1.0 2.2 3.3 5.0 -3.1 -3.7 .4 1.4 2.7 2.3 .6 -.6 .2 -.5 .0 .3 1.1 1.4 .6 .7 .5
.8 .3 -.3 .2 .1 -.3 .0 .3 .8 1.5 3.2 -1.7 -1.3 -.7 -.3 -.5 .9 1.9 2.0 .2 .6 .2 .9 1.1 1.3 1.2 -1.1 -1.8 .4 .7 .6
.5 .5 .4 .5 .2 .3 .1 .0 -.1 .1 .8 -1.9 -1.0 -.5 -.3 .1 .3 1.0 .3 -.3 -.1 -.3 .0 .3 .3 .3 .2 -.1 .0 -.1 .1
-.2 -.4 -.4 -.1 .1 .3 .1 .1 .0 .2 .7 -.2 -.2 -.3 .0 -.1 -.6 .2 .1 .3 .5 -.3 .0 .3 -.1 .0 -.4 .1 .0 .1 .0 .1 .0 -.1
.2 -.4 -1.0 -.5 -.9 -.6 -.7 -.6 -.6 -1.0 .5 -.5 -1.1 .2 -.3 -.4 -.3 -.2 -.2 -.7 -.5 -.3 -.8 -.3 -.6 -.3 -.7 -.7 -.3 -.2 .2 .5 .6 .2 -.1
-1.5 -2.1 -2.6 -2.1 -1.0 -1.9 -1.8 -1.8 -1.2 -.5 -.7 -.7 -1.1 -1.5 -1.1 -1.2 -1.3 -.7 -.9 -1.0 -1.5 -1.4 -.7 -.7 -1.7 -1.2 -1.7 -1.2 -1.4 -.2 .1 -1.0 -1.5 -1.2
-2.0 -2.3 -1.9 -1.5 -1.5 -1.3 1.4 -.1 -.6 -.9 -1.1

500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 100 TO 300 HPA
NOVEMBER 1995
FIGURE 26
NOAA–12, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

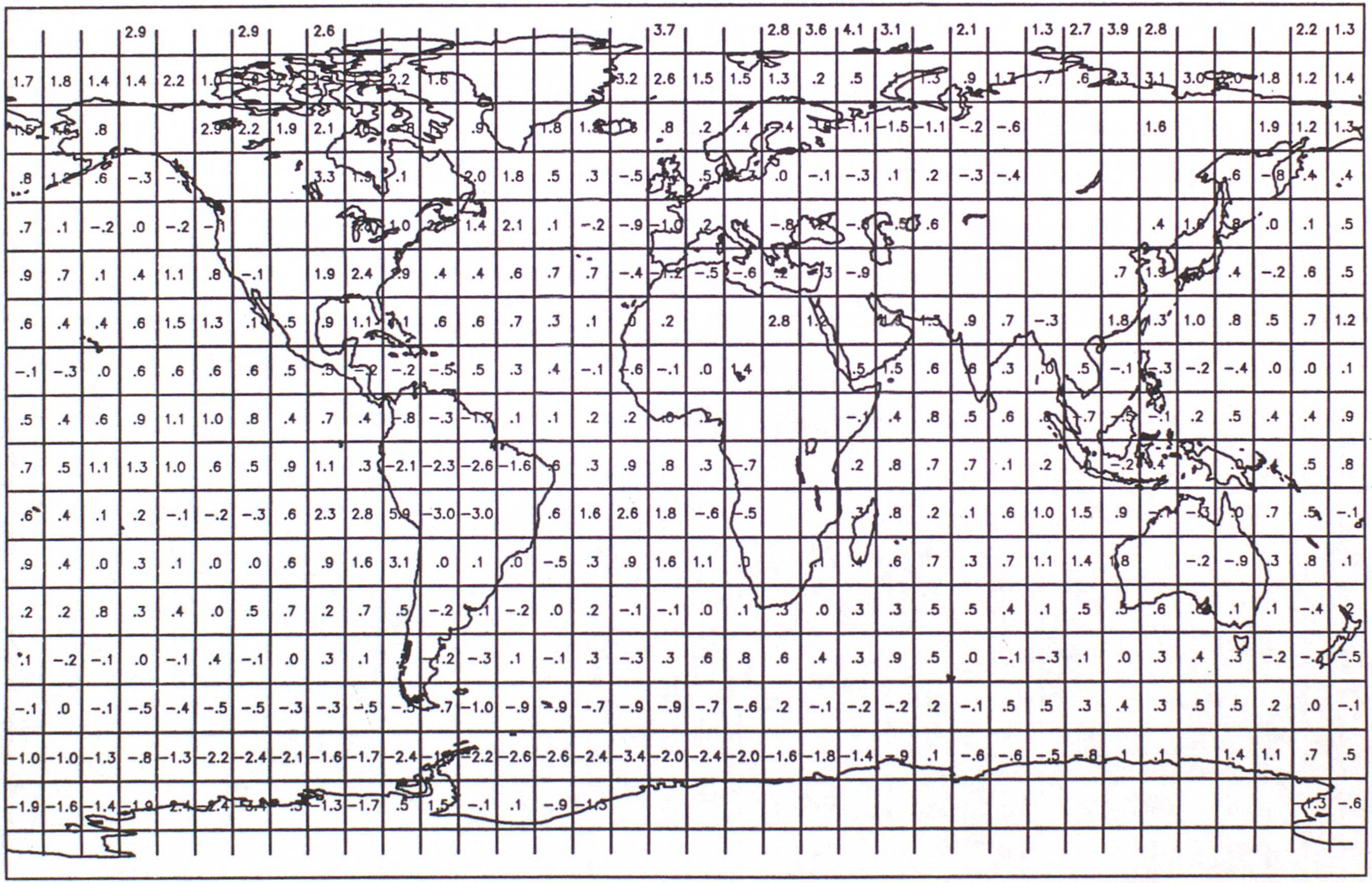


500 KM SATEMS : MEAN O-B TEMPERATURE DIFFERENCES (DEG C) : 30 TO 50 HPA
NOVEMBER 1995
NOAA-12, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

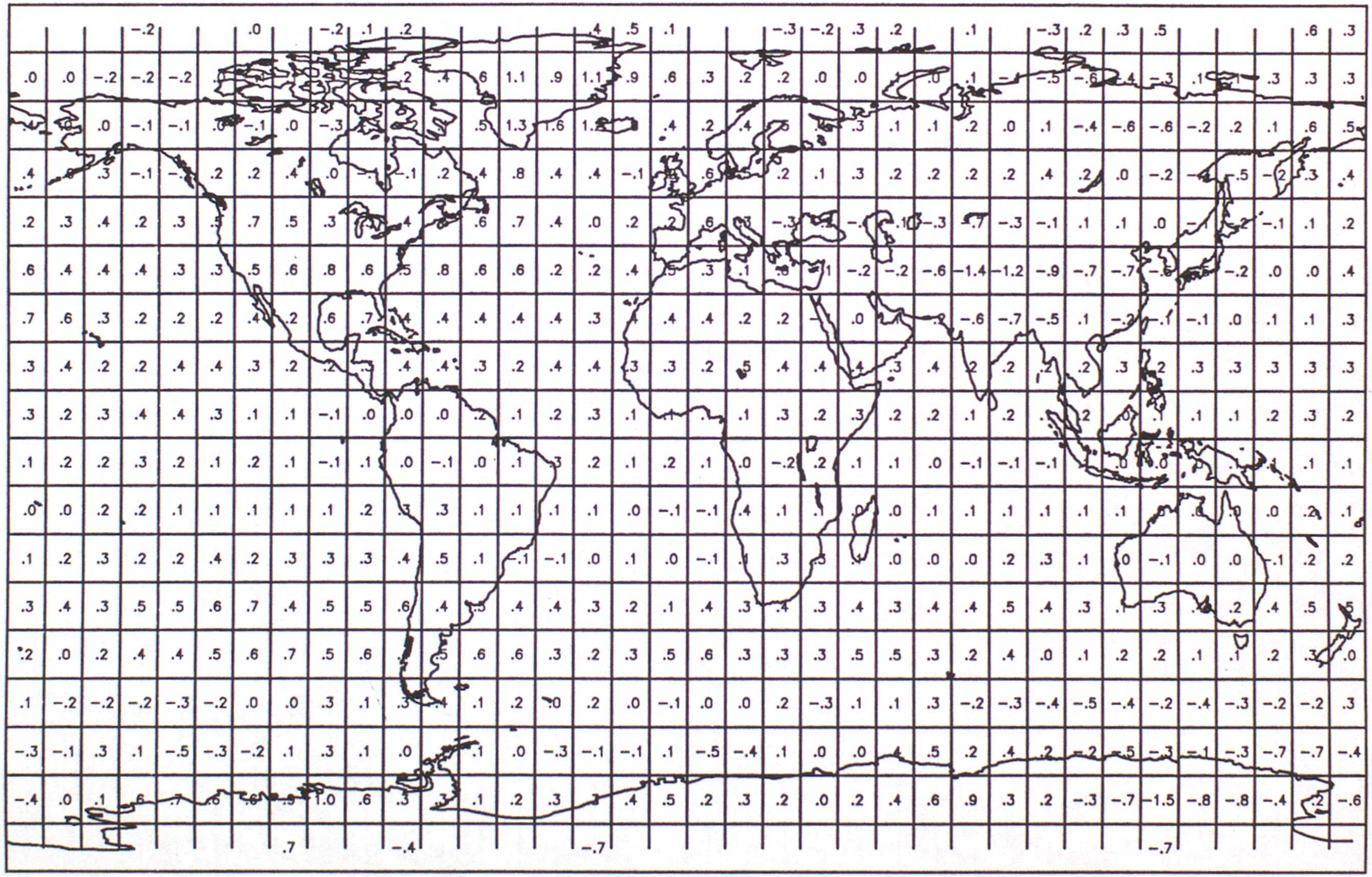
FIGURE 27


1.2 1.1 1.0 1.1 .6
.9 1.0 1.1 1.2 1.3 1.[illegible] [illegible] [illegible] [illegible] [illegible] 1.2 1.2 1.0 .2 .3 .6 1.1 1.5 1.2 1.3 1.3 1.1 1.3 1.4 1.4 1.3 1.5 1.5 1.6 2.7 1.8 1.3 2.2 1.2 1.2 1.1
1.1 1.3 1.4 1.3 1.2 1.0 1.0 1.0 1.0 [illegible] [illegible] [illegible] 1.5 .7 .9 1.3 1.4 1.5 1.4 1.6 1.0 [illegible] 1.0 1.0 1.0 1.3 1.6 2.0 2.1 1.9 2.0 1.6 1.7 1.7 2.0 1.4
1.9 1.7 1.7 1.2 1.4 1.6 1.4 1.5 1.5 1.8 1.6 1.3 1.3 1.6 1.4 1.2 1.4 [illegible] 1.4 [illegible] 1.3 .9 1.0 1.0 1.1 1.3 1.7 1.6 2.0 2.1 2.0 1.7 1.7 2.2 1.9 1.7
2.1 2.0 2.0 2.0 1.8 1.[illegible] 1.7 1.9 2.2 [illegible] 1.4 1.2 1.5 1.5 1.6 1.6 1.6 1.8 2.4 2.0 1.6 1.5 1.6 1.8 1.7 1.9 1.7 1.9 2.2 2.1 1.7 1.7 2.0 2.4 2.2 2.0
2.1 1.9 1.8 2.1 2.2 2.2 2.2 2.0 1.9 1.8 1.5 1.5 1.9 1.6 1.7 1.8 1.6 2.1 2.1 1.4 1.5 1.9 2.5 2.7 2.8 2.8 2.4 2.2 2.6 2.2 1.8 [illegible] 2.4 2.8 2.5 2.3
1.6 1.3 1.9 1.9 2.0 1.8 2.2 2.7 2.3 2.1 2.5 2.3 1.9 1.7 1.7 1.6 1.8 2.5 2.0 2.1 2.4 2.4 3.2 3.2 2.7 3.0 2.4 2.1 2.4 2.2 1.9 2.1 2.2 2.4 2.2 2.1
1.8 2.0 1.9 1.7 1.8 2.1 2.3 2.6 2.8 2.4 2.2 2.2 1.5 1.2 1.5 1.8 3.0 2.9 2.9 3.2 3.1 2.7 2.5 1.6 1.2 2.0 1.7 1.7 2.1 1.1 2.0 1.9 2.1 1.7 1.4 1.5
1.8 2.3 2.6 2.2 1.8 2.1 2.3 2.6 2.6 2.7 3.1 2.7 2.7 1.9 1.6 2.0 2.8 3.0 3.0 3.5 2.9 2.8 2.8 2.2 2.2 2.6 2.0 2.[illegible] 2.0 2.3 2.4 2.0 2.2 2.3 1.7 1.7
2.1 2.2 2.4 2.2 2.0 2.1 2.1 2.4 2.4 2.9 3.1 2.4 2.6 2.3 2.1 2.2 2.4 2.4 3.1 2.5 2.5 3.0 2.6 2.4 2.2 2.3 2.0 2.0 1.[illegible] 2.4 2.4 2.[illegible] 2.7 2.4 2.1 1.7
2.0 1.9 1.7 1.8 2.3 2.1 2.0 2.1 2.1 2.0 2.6 2.2 2.3 2.3 1.8 2.0 2.1 2.2 2.6 2.7 3.0 3.1 2.6 2.3 2.3 2.2 1.9 2.1 1.7 1.5 2.1 2.5 2.5 1.9 1.8 1.8
1.8 1.7 1.6 1.6 1.9 1.7 2.1 2.2 2.4 2.0 1.7 2.3 2.1 2.0 1.9 2.0 2.1 1.7 1.9 2.2 2.4 2.0 2.4 2.2 2.4 2.2 2.0 1.8 1.7 2.2 2.3 2.2 2.5 2.0 2.1 2.0
1.7 1.7 1.3 1.5 1.7 1.7 1.8 1.8 2.2 2.1 2.1 2.1 2.1 1.8 1.8 2.1 2.2 2.2 2.1 2.1 1.9 1.8 1.8 2.0 2.3 2.0 1.9 1.7 1.7 1.7 1.8 1.6 1.8 1.8 1.4 1.3
1.4 1.4 1.5 1.7 1.8 1.7 1.7 1.8 1.8 1.8 1.[illegible] 1.5 1.8 2.0 2.6 2.7 2.4 2.6 2.2 2.4 2.1 2.0 2.1 2.2 2.1 1.9 1.8 1.9 2.1 2.0 2.0 2.1 2.1 1.7 1.5 1.1
1.8 1.6 2.2 1.8 1.7 2.0 2.2 2.3 2.2 2.4 2.2 2.2 2.0 2.2 2.0 2.8 3.3 3.2 3.6 3.2 2.8 2.6 2.7 2.5 2.3 2.5 2.1 2.2 2.1 2.1 2.0 2.0 1.7 1.7 1.5 1.5
2.5 2.5 2.8 2.9 3.5 3.5 3.7 3.3 3.1 2.9 3.0 2.[illegible] 2.5 2.7 3.4 3.9 4.2 4.4 3.8 3.9 3.5 2.7 2.5 1.9 2.1 2.2 2.4 2.5 2.9 2.8 2.6 2.4 2.2 2.3 2.3 2.0
3.3 3.3 2.9 2.8 3.1 2.8 3.1 2.9 2.9 2.6 2.9 2.8 2.9 2.6 3.0 3.8 3.9 4.3 4.7 4.9 4.6 4.4 4.1 3.5 2.7 2.4 2.9 2.9 3.5 3.4 3.0 2.9 3.0 3.0 3.0 3.7
2.9

500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 850 TO 1000 HPA
NOVEMBER 1995
FIGURE 28
NOAA–14, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

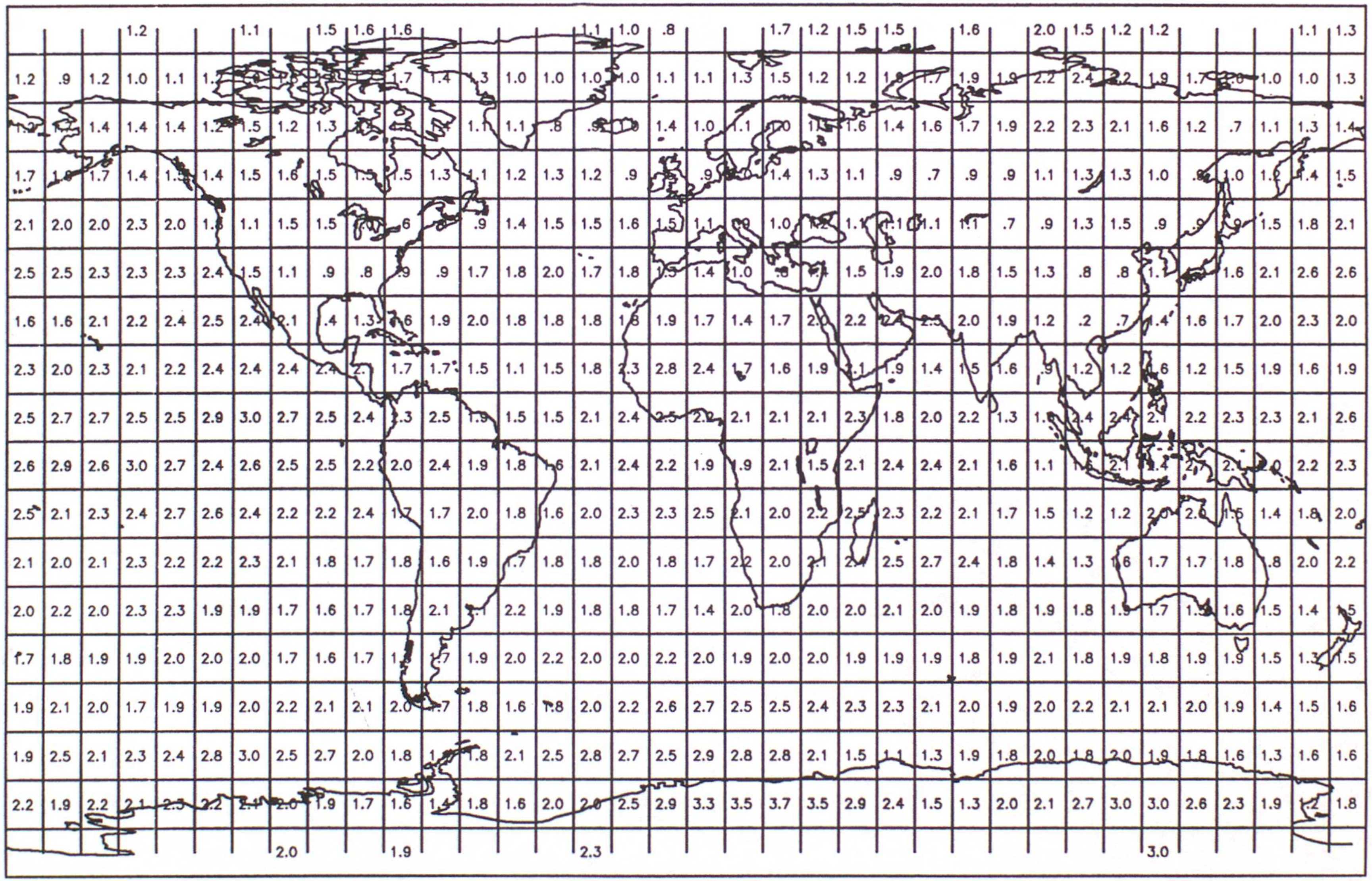

2.9 2.9 2.6 3.7 2.8 3.6 4.1 3.1 2.1 1.3 2.7 3.9 2.8 2.2 1.3
1.7 1.8 1.4 1.4 2.2 2.2 1.6 3.2 2.6 1.5 1.5 1.3 .2 .5 1.3 .9 1.7 .7 .6 3.1 3.0 1.8 1.2 1.4
1.5 1.6 .8 2.9 2.2 1.9 2.1 .9 1.8 1.8 .8 .2 .4 2.4 –1.1 –1.5 –1.1 –.2 –.6 1.6 1.9 1.2 1.3
.8 1.2 .6 –.3 3.3 .1 2.0 1.8 .5 .3 –.5 .5 .0 –.1 –.3 .1 .2 –.3 –.4 .6 –.8 .4 .4
.7 .1 –.2 .0 –.2 1.0 1.4 2.1 .1 –.2 –.9 –1.0 .2 –.8 –.5 .6 .4 1.6 .0 .1 .5
.9 .7 .1 .4 1.1 .8 –.1 1.9 2.4 .9 .4 .4 .6 .7 .7 –.4 –.5 –.6 –.3 –.9 .7 1.9 .4 –.2 .6 .5
.6 .4 .4 .6 1.5 1.3 .1 .5 .9 1.1 .1 .6 .6 .7 .3 .1 .2 2.8 1.2 .9 .7 –.3 1.8 1.3 1.0 .8 .5 .7 1.2
–.1 –.3 .0 .6 .6 .6 .6 .5 .5 –.2 –.2 –.5 .5 .3 .4 –.1 –.6 –.1 .0 1.4 .5 1.5 .6 .8 .3 .0 .5 –.1 –.3 –.2 –.4 .0 .0 .1
.5 .4 .6 .9 1.1 1.0 .8 .4 .7 .4 –.8 –.3 –1.7 .1 .1 .2 .2 –.1 .4 .8 .5 .6 .8 –.7 –.5 –.1 .2 .5 .4 .4 .9
.7 .5 1.1 1.3 1.0 .6 .5 .9 1.1 .3 –2.1 –2.3 –2.6 –1.6 .6 .3 .9 .8 .3 –.7 .2 .8 .7 .7 .1 .2 –.2 .4 .0 .5 .8
.6 .4 .1 .2 –.1 –.2 –.3 .6 2.3 2.8 5.9 –3.0 –3.0 .6 1.6 2.6 1.8 –.6 –.5 .3 .8 .2 .1 .6 1.0 1.5 .9 –.3 .0 .7 .5 –.1
.9 .4 .0 .3 .1 .0 .0 .6 .9 1.6 3.1 .0 .1 .0 –.5 .3 .9 1.6 1.1 .6 .7 .3 .7 1.1 1.4 .8 –.2 –.9 .3 .8 .1
.2 .2 .8 .3 .4 .0 .5 .7 .2 .7 .5 –.2 .1 –.2 .0 .2 –.1 –.1 .0 .1 .3 .0 .3 .3 .5 .5 .4 .1 .5 .5 .6 .1 .1 –.4 .2
.1 –.2 –.1 .0 –.1 .4 –.1 .0 .3 .1 .2 –.3 .1 –.1 .3 –.3 .3 .6 .8 .6 .4 .3 .9 .5 .0 –.1 –.3 .1 .0 .3 .4 .3 –.2 –.4 –.5
–.1 .0 –.1 –.5 –.4 –.5 –.5 –.3 –.3 –.5 –.5 –.7 –1.0 –.9 –.9 –.7 –.9 –.9 –.7 –.6 .2 –.1 –.2 –.2 .2 –.1 .5 .5 .3 .4 .3 .5 .5 .2 .0 –.1
–1.0 –1.0 –1.3 –.8 –1.3 –2.2 –2.4 –2.1 –1.6 –1.7 –2.4 –1.9 –2.2 –2.6 –2.6 –2.4 –3.4 –2.0 –2.4 –2.0 –1.6 –1.8 –1.4 –.9 .1 –.6 –.6 –.5 –.8 .1 .1 1.4 1.1 .7 .5
–1.9 –1.6 –1.4 –1.9 –2.4 –2.4 –3.4 .5 –1.3 –1.7 .5 1.5 –.1 .1 –.9 –1.5 –1.3 –.6

500 KM SATEMS : MEAN O–B TEMPERATURE DIFFERENCES (DEG C) : 100 TO 300 HPA
NOVEMBER 1995 FIGURE 29
NOAA–14, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT


–.2 .0 –.2 .1 .2 .4 .5 .1 –.3 –.2 .3 .2 .1 –.3 .2 .3 .5 .6 .3
.0 .0 –.2 –.2 –.2 .2 .4 .6 1.1 .9 1.1 .9 .6 .3 .2 .2 .0 .0 .0 .1 –.5 –.6 .4 –.3 .1 .3 .3 .3
.0 –.1 –.1 .0 –.1 .0 –.3 .5 1.3 1.6 1.2 .4 .2 .4 .5 .3 .1 .1 .2 .0 .1 –.4 –.6 –.6 –.2 .2 .1 .6 .5
.4 .3 –.1 .2 .2 .4 .0 –.1 .2 .4 .8 .4 .4 –.1 .6 .2 .1 .3 .2 .2 .2 .2 .4 .2 .0 –.2 .5 .2 .3 .4
.2 .3 .4 .2 .3 .5 .7 .5 .3 .4 .6 .7 .4 .0 .2 .2 .6 .3 –.3 –.1 .1 –.3 –.7 –.3 –.1 .1 .1 .0 .2 –.1 .1 .2
.6 .4 .4 .4 .3 .3 .5 .6 .8 .6 .5 .8 .6 .6 .2 .2 .4 .5 .3 .1 .8 .1 –.2 –.2 –.6 –1.4 –1.2 –.9 –.7 –.7 –.6 –.2 .0 .0 .4
.7 .6 .3 .2 .2 .2 .4 .2 .6 .7 .4 .4 .4 .4 .4 .3 .4 .4 .4 .2 .2 .0 –.6 –.7 –.5 .1 –.2 –.1 –.1 .0 .1 .1 .3
.3 .4 .2 .2 .4 .4 .3 .2 .2 .3 .4 .4 .3 .2 .4 .4 .3 .3 .2 .5 .4 .4 .4 .3 .4 .2 .2 .2 .2 .3 .2 .3 .3 .3 .3 .3
.3 .2 .3 .4 .4 .3 .1 .1 –.1 .0 .0 .0 .2 .1 .2 .3 .1 .1 .1 .1 .3 .2 .3 .2 .2 .1 .2 .2 .1 .1 .1 .2 .3 .2
.1 .2 .2 .3 .2 .1 .2 .1 –.1 .1 .0 –.1 .0 .1 .3 .2 .1 .2 .1 .0 –.2 .2 .1 .1 .0 –.1 –.1 –.1 .0 .0 .1 .1 .1
.0 .0 .2 .2 .1 .1 .1 .1 .1 .2 .3 .3 .1 .1 .1 .1 .0 –.1 –.1 .4 .1 .1 .0 .0 .1 .1 .1 .1 .1 .1 .0 .0 .0 .2 .1
.1 .2 .3 .2 .2 .4 .2 .3 .3 .3 .4 .5 .1 –.1 –.1 .0 .1 .0 –.1 .1 .3 .3 .1 .0 .0 .0 .2 .3 .1 .0 –.1 .0 .0 –.1 .2 .2
.3 .4 .3 .5 .5 .6 .7 .4 .5 .5 .6 .4 .3 .4 .4 .3 .2 .1 .4 .3 .4 .3 .4 .3 .4 .4 .5 .4 .3 .1 .3 .4 .2 .4 .5 .5
.2 .0 .2 .4 .4 .5 .6 .7 .5 .6 .5 .6 .6 .3 .2 .3 .5 .6 .3 .3 .3 .5 .5 .3 .2 .4 .0 .1 .2 .2 .1 .1 .2 .3 .0
.1 –.2 –.2 –.2 –.3 –.2 .0 .0 .3 .1 .3 .4 .1 .2 .0 .2 .0 –.1 .0 .0 .2 –.3 .1 .1 .3 –.2 –.3 –.4 –.5 –.4 –.2 –.4 –.3 –.2 –.2 .3
–.3 –.1 .3 .1 –.5 –.3 –.2 .1 .3 .1 .0 .1 .0 –.3 –.1 –.1 .1 –.5 –.4 .1 .0 .0 .4 .5 .2 .4 .2 –.2 –.5 –.3 –.1 –.3 –.7 –.7 –.4
–.4 .0 .1 .6 .7 .6 .6 .9 1.0 .6 .3 .3 .1 .2 .3 .3 .4 .5 .2 .3 .2 .0 .2 .4 .6 .9 .3 .2 –.3 –.7 –1.5 –.8 –.8 –.4 .2 –.6
.7 –.4 –.7 –.7

500 KM SATEMS : MEAN O-B TEMPERATURE DIFFERENCES (DEG C) : 30 TO 50 HPA
NOVEMBER 1995
NOAA-14, USING ALL OBSERVATIONS
VALUES ARE PRINTED WHERE MORE THAN 30 OBS ARE PRESENT

FIGURE 30



			1.2			1.1		1.5	1.6	1.6					1.1	1.0	.8			1.7	1.2	1.5	1.5		1.6		2.0	1.5	1.2	1.2				1.1	1.3
1.2	.9	1.2	1.0	1.1	1.2	[illegible]	[illegible]	[illegible]	[illegible]	1.7	1.4	1.3	1.0	1.0	1.0	1.0	1.1	1.1	1.3	1.5	1.2	1.2	1.8	1.7	1.9	1.9	2.2	2.4	2.2	1.9	1.7	2.0	1.0	1.0	1.3
1.2	1.7	1.4	1.4	1.4	1.2	1.5	1.2	1.3	[illegible]	[illegible]	[illegible]	1.1	1.1	.8	.9	[illegible]	1.4	1.0	1.1	1.0	[illegible]	1.6	1.4	1.6	1.7	1.9	2.2	2.3	2.1	1.6	1.2	.7	1.1	1.3	1.4
1.7	1.8	1.7	1.4	1.5	1.4	1.5	1.6	1.5	1.5	1.5	1.3	1.1	1.2	1.3	1.2	.9	[illegible]	.9	[illegible]	1.4	1.3	1.1	.9	.7	.9	.9	1.1	1.3	1.3	1.0	.8	1.0	1.2	1.4	1.5
2.1	2.0	2.0	2.3	2.0	1.8	1.1	1.5	1.5	[illegible]	.6	[illegible]	.9	1.4	1.5	1.5	1.6	1.5	1.1	.9	1.0	1.2	1.1	1.1	1.1	1.1	.7	.9	1.3	1.5	.9	.9	.9	1.5	1.8	2.1
2.5	2.5	2.3	2.3	2.3	2.4	1.5	1.1	.9	.8	.9	.9	1.7	1.8	2.0	1.7	1.8	1.5	1.4	1.0	.8	[illegible]	1.5	1.9	2.0	1.8	1.5	1.3	.8	.8	1.1	[illegible]	1.6	2.1	2.6	2.6
1.6	1.6	2.1	2.2	2.4	2.5	2.4	2.1	.4	1.3	1.6	1.9	2.0	1.8	1.8	1.8	1.8	1.9	1.7	1.4	1.7	2.0	2.2	2.4	2.5	2.0	1.9	1.2	.2	.7	1.4	1.6	1.7	2.0	2.3	2.0
2.3	2.0	2.3	2.1	2.2	2.4	2.4	2.4	2.4	[illegible]	1.7	1.7	1.5	1.1	1.5	1.8	2.3	2.8	2.4	1.7	1.6	1.9	2.1	1.9	1.4	1.5	1.6	.9	1.2	1.2	1.6	1.2	1.5	1.9	1.6	1.9
2.5	2.7	2.7	2.5	2.5	2.9	3.0	2.7	2.5	2.4	2.3	2.5	1.9	1.5	1.5	2.1	2.4	2.5	2.2	2.1	2.1	2.1	2.3	1.8	2.0	2.2	1.3	[illegible]	2.4	2.4	2.1	2.2	2.3	2.3	2.1	2.6
2.6	2.9	2.6	3.0	2.7	2.4	2.6	2.5	2.5	2.2	2.0	2.4	1.9	1.8	1.6	2.1	2.4	2.2	1.9	1.9	2.1	1.5	2.1	2.4	2.4	2.1	1.6	1.1	[illegible]	2.1	2.4	2.7	[illegible]	2.0	2.2	2.3
2.5	2.1	2.3	2.4	2.7	2.6	2.4	2.2	2.2	2.4	1.7	1.7	2.0	1.8	1.6	2.0	2.3	2.3	2.5	2.1	2.0	2.2	2.5	2.3	2.2	2.1	1.7	1.5	1.2	1.2	2.0	2.6	1.5	1.4	1.8	2.0
2.1	2.0	2.1	2.3	2.2	2.2	2.3	2.1	1.8	1.7	1.8	1.6	1.9	1.7	1.8	1.8	2.0	1.8	1.7	2.2	2.0	2.1	2.4	2.5	2.7	2.4	1.8	1.4	1.3	1.6	1.7	1.7	1.8	1.8	2.0	2.2
2.0	2.2	2.0	2.3	2.3	1.9	1.9	1.7	1.6	1.7	1.8	2.1	2.1	2.2	1.9	1.8	1.8	1.7	1.4	2.0	1.8	2.0	2.0	2.1	2.0	1.9	1.8	1.9	1.8	1.9	1.7	1.5	1.6	1.5	1.4	1.5
1.7	1.8	1.9	1.9	2.0	2.0	2.0	1.7	1.6	1.7	1.8	1.7	1.9	2.0	2.2	2.0	2.0	2.2	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.8	1.9	2.1	1.8	1.9	1.8	1.9	1.9	1.5	1.3	1.5
1.9	2.1	2.0	1.7	1.9	1.9	2.0	2.2	2.1	2.1	2.0	1.7	1.8	1.6	1.8	2.0	2.2	2.6	2.7	2.5	2.5	2.4	2.3	2.3	2.1	2.0	1.9	2.0	2.2	2.1	2.1	2.0	1.9	1.4	1.5	1.6
1.9	2.5	2.1	2.3	2.4	2.8	3.0	2.5	2.7	2.0	1.8	[illegible]	1.8	2.1	2.5	2.8	2.7	2.5	2.9	2.8	2.8	2.1	1.5	1.1	1.3	1.9	1.8	2.0	1.8	2.0	1.9	1.8	1.6	1.3	1.6	1.6
2.2	1.9	2.2	2.1	2.3	2.2	2.4	2.0	1.9	1.7	1.6	1.4	1.8	1.6	2.0	2.0	2.5	2.9	3.3	3.5	3.7	3.5	2.9	2.4	1.5	1.3	2.0	2.1	2.7	3.0	3.0	2.6	2.3	1.9	1.2	1.8
							2.0			1.9					2.3															3.0					

TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)
DATA TYPE:- DRIFTER
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures
Period :One calendar month.

Data monitored :Reports from each unique identifier for drifting buoy.

Area monitored :10°N - 80°N, 85°W - 0°W

Standard of comparison :Background field from Bracknell global model.

Position :Average latitude and longitude for period.

Observation times :All hours combined.

Elements monitored :Mean sea-level pressure (hPa)
:Wind speed (m s^{-1})
:Wind direction (degrees)

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:NGE :Number of observations with gross errors.

:PGE :Percentage of observations with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. A positive bias indicates the observation is veered to the background

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors

GROSS ERROR LIMITS :15 hPa (pressure)
:25 m s^{-1} (Vector Wind)

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
MEAN SEA LEVEL PRESSURE											
25565	58.0	-42.1	ALL	MSLP	SUR	635	0	0	1.7	0.1	1.7
40601	14.2	-17.6	ALL	MSLP	SUR	2	0	0	0.1	2.4	2.5
40603	20.0	-15.7	ALL	MSLP	SUR	8	0	0	1.1	2.1	2.4
40605	26.9	-16.3	ALL	MSLP	SUR	1	0	0	0.0	2.0	2.0
40703	44.1	-9.6	ALL	MSLP	SUR	1	0	0	0.0	3.8	3.8
41518	31.9	-71.0	ALL	MSLP	SUR	233	0	0	1.1	0.1	1.1
41519	30.6	-71.9	ALL	MSLP	SUR	241	0	0	0.9	0.3	0.9
41526	35.8	-67.0	ALL	MSLP	SUR	243	0	0	1.1	-0.1	1.1
41527	33.6	-69.1	ALL	MSLP	SUR	244	0	0	1.1	0.1	1.1
41529	25.3	-67.3	ALL	MSLP	SUR	215	0	0	0.8	0.1	0.8
41530	33.8	-68.4	ALL	MSLP	SUR	211	0	0	1.0	0.0	1.0
41581	35.2	-67.3	ALL	MSLP	SUR	1	0	0	0.0	-1.0	1.0
41585	34.2	-69.2	ALL	MSLP	SUR	247	0	0	1.0	0.1	1.0
41594	32.8	-76.1	ALL	MSLP	SUR	93	0	0	1.0	0.1	1.0
44546	32.4	-49.6	ALL	MSLP	SUR	246	16	7	1.0	2.0	2.3
44547	35.0	-45.7	ALL	MSLP	SUR	289	0	0	1.7	0.6	1.8
44613	48.4	-22.3	ALL	MSLP	SUR	1409	2	0	1.4	0.1	1.4
44616	56.3	-28.1	ALL	MSLP	SUR	1706	7	0	1.4	1.0	1.7
44727	50.4	-38.9	ALL	MSLP	SUR	1398	1	0	1.5	0.0	1.5
44728	56.4	-30.7	ALL	MSLP	SUR	1508	8	1	1.4	0.3	1.4
44742	62.2	-35.0	ALL	MSLP	SUR	1893	4	0	1.3	0.0	1.3
44760	31.0	-30.8	ALL	MSLP	SUR	518	0	0	1.1	-0.3	1.1
44761	56.6	-46.1	ALL	MSLP	SUR	200	0	0	2.5	0.3	2.5
44763	55.5	-40.1	ALL	MSLP	SUR	1661	2	0	1.5	0.2	1.5
44765	55.9	-28.0	ALL	MSLP	SUR	1593	4	0	1.4	-0.2	1.5
44769	52.6	-25.7	ALL	MSLP	SUR	1569	1	0	1.4	0.2	1.4
44770	32.8	-39.1	ALL	MSLP	SUR	726	0	0	1.2	0.0	1.2
44773	50.9	-32.8	ALL	MSLP	SUR	1139	2	0	1.7	0.2	1.7
44774	55.6	-49.4	ALL	MSLP	SUR	19	1	5	0.8	1.0	1.3
44777	32.3	-30.4	ALL	MSLP	SUR	514	0	0	0.9	-0.2	0.9
47531	73.9	-76.3	ALL	MSLP	SUR	315	315	100	0.0	0.0	0.0
52621	44.7	-63.6	ALL	MSLP	SUR	6	0	0	1.3	-2.3	2.7
56509	44.7	-63.6	ALL	MSLP	SUR	5	0	0	1.0	-2.5	2.6
56511	44.7	-63.6	ALL	MSLP	SUR	4	0	0	1.3	-2.7	3.1
56512	44.7	-63.6	ALL	MSLP	SUR	4	0	0	1.4	-3.0	3.3
62501	50.8	-18.5	ALL	MSLP	SUR	574	0	0	1.5	0.4	1.5
62502	44.8	-15.0	ALL	MSLP	SUR	540	2	0	1.2	0.3	1.2
62503	47.9	-18.1	ALL	MSLP	SUR	546	0	0	1.1	0.4	1.2
62504	46.9	-16.4	ALL	MSLP	SUR	518	0	0	1.1	0.3	1.1
62511	50.6	-9.9	ALL	MSLP	SUR	464	0	0	1.5	0.8	1.7
62518	42.2	-14.6	ALL	MSLP	SUR	521	0	0	1.1	0.0	1.1
62519	47.3	-18.8	ALL	MSLP	SUR	2	0	0	0.2	0.3	0.4
62524	26.6	-54.8	ALL	MSLP	SUR	199	1	1	1.1	0.4	1.2
62694	59.7	-33.3	ALL	MSLP	SUR	11	0	0	1.8	0.7	1.9
63661	66.1	-24.4	ALL	MSLP	SUR	713	5	1	2.0	-0.3	2.0
63665	79.8	-6.4	ALL	MSLP	SUR	801	0	0	1.4	-0.5	1.5
65581	55.6	-32.7	ALL	MSLP	SUR	73	1	1	3.0	-0.3	3.0
65594	61.6	-38.0	ALL	MSLP	SUR	1820	3	0	1.3	0.4	1.3
WIND SPEED											
40601	14.2	-17.6	ALL	SPEED	SUR	2	0	0	1.4	4.4	4.6
40603	20.0	-15.7	ALL	SPEED	SUR	7	0	0	1.9	1.4	2.4
40605	26.9	-16.3	ALL	SPEED	SUR	1	0	0	0.0	-2.7	2.7
40703	44.1	-9.6	ALL	SPEED	SUR	1	0	0	0.0	0.1	0.1
41526	35.8	-67.0	ALL	SPEED	SUR	237	0	0	2.3	-3.1	3.8
41529	25.3	-67.3	ALL	SPEED	SUR	209	0	0	1.5	-2.6	3.0
41585	34.2	-69.2	ALL	SPEED	SUR	246	0	0	1.7	-0.2	1.7
44613	48.4	-22.3	ALL	SPEED	SUR	1380	3	0	2.4	-0.9	2.5
44616	56.3	-28.1	ALL	SPEED	SUR	453	0	0	4.0	-9.0	9.9
44742	62.2	-35.0	ALL	SPEED	SUR	1868	0	0	2.0	-1.2	2.3

WIND SPEED

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
62501	50.8	-18.5	ALL	SPEED	SUR	571	0	0	1.8	-0.5	1.9
62502	44.8	-15.0	ALL	SPEED	SUR	502	1	0	2.2	0.8	2.3
62518	42.2	-14.6	ALL	SPEED	SUR	518	0	0	1.7	0.0	1.7

WIND DIRECTION

IDENTIFIER	LAT.	LONG.	HOUR	ELEM	LEVEL	NOBS	NGE	PGE	SD	BIAS	RMS
40601	14.2	-17.6	ALL	DIRN.	SUR	2	0	0	14.2	-11.2	18.1
40603	20.0	-15.7	ALL	DIRN.	SUR	6	0	0	9.5	2.7	9.9
40605	26.9	-16.3	ALL	DIRN.	SUR	1	0	0	0.0	39.1	39.1
40703	44.1	-9.6	ALL	DIRN.	SUR	1	0	0	0.0	6.1	6.1
41526	35.8	-67.0	ALL	DIRN.	SUR	198	0	0	27.0	3.7	27.3
41529	25.3	-67.3	ALL	DIRN.	SUR	131	0	0	25.3	18.9	31.6
41585	34.2	-69.2	ALL	DIRN.	SUR	225	0	0	17.4	14.6	22.7
44613	48.4	-22.3	ALL	DIRN.	SUR	1320	3	0	19.7	-1.9	19.8
44616	56.3	-28.1	ALL	DIRN.	SUR	379	0	0	89.6	-24.6	92.9
44742	62.2	-35.0	ALL	DIRN.	SUR	1442	0	0	27.2	1.1	27.3
62501	50.8	-18.5	ALL	DIRN.	SUR	546	0	0	13.1	-11.8	17.6
62502	44.8	-15.0	ALL	DIRN.	SUR	443	1	0	16.4	-23.9	29.0
62518	42.2	-14.6	ALL	DIRN.	SUR	414	0	0	20.9	1.6	20.9

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures:
Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :40°N - 70°N, 60°W - 0°W.

Standard of comparison :Background field from Bracknell global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored :N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

		TEMPERATURE				WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	3312	0	1	1.7	-0.1	3308	0	1	0	8.1	1.2
AAN	66	0	3	2.3	0.5	67	0	7	0	12.1	0.7
ACA	614	1	1	1.8	-0.3	636	0	1	0	8.0	1.4
AEA	239	8	38	4.3	2.0	235	0	5	0	10.7	1.7
AEL	340	0	3	1.9	-0.4	346	0	4	0	9.8	1.2
AFL	149	7	100	3.5	2.2	149	0	3	1	9.4	0.9
AFR	694	0	6	1.8	-0.2	704	0	5	0	9.2	1.3
AIC	20	0	10	1.2	-0.5	20	0	20	0	19.1	8.2
AIH	54	0	2	1.8	0.4	56	0	2	0	8.0	0.9
AMX	104	0	2	1.7	-0.1	103	0	3	0	9.5	2.1
AMY	100	0	1	2.4	-1.2	104	0	2	1	10.3	-0.2
ANZ	173	0	2	1.8	-1.0	172	0	3	1	6.8	0.5
AOM	153	0	1	2.1	1.0	153	0	2	0	9.8	1.4
AUA	82	0	9	2.0	-0.4	82	0	9	0	8.3	2.3
AVA	96	3	7	2.1	0.2	97	0	7	0	13.7	1.5
AZA	337	1	5	2.6	0.7	344	0	4	0	10.3	1.4
BAL	131	1	19	1.7	0.2	135	0	19	0	9.5	0.9
BAW	1386	0	2	1.7	-0.1	1402	0	3	0	8.4	1.6
BBB	20	0	5	1.5	-0.6	20	0	5	0	9.4	2.5
BWA	123	1	6	2.8	1.6	123	0	6	0	13.6	2.2
CDN	745	0	1	1.6	0.4	743	0	1	0	8.0	0.4
CFC	25	0	12	2.3	-0.1	25	0	12	0	9.3	4.5
CFG	558	1	4	2.0	-0.4	565	0	4	0	8.8	0.8
CKT	53	0	6	1.7	0.8	55	0	7	0	6.7	-0.2
CLX	163	0	1	1.9	-1.0	165	1	2	1	7.8	0.6
COA	371	1	2	1.8	0.6	373	0	3	0	9.2	0.8
CRL	100	0	5	2.6	0.8	101	0	5	0	9.1	1.5
CTM	26	0	15	2.8	-0.9	25	0	12	0	8.0	0.4
CUB	150	1	100	2.6	1.5	150	0	100	0	9.7	1.6
DAF	28	0	7	2.4	-0.3	28	0	4	0	8.8	-1.1
DAL	2227	1	2	1.9	0.5	2234	0	2	0	8.6	1.1
DHL	468	4	100	4.3	-2.7	468	0	2	0	9.0	0.8
DLH	2374	0	8	2.0	0.4	2364	0	10	2	8.4	1.1
DOA	136	1	18	2.1	0.4	133	0	18	0	10.0	1.1
EIA	144	1	8	1.8	-0.2	151	0	9	0	10.1	1.1
ELY	106	0	12	1.8	-0.2	108	0	12	0	8.7	1.5
EWW	105	4	55	3.1	-0.6	106	0	56	0	13.7	2.6
FDX	426	1	4	1.8	0.7	441	0	3	0	8.3	0.8
FIN	431	1	3	1.8	0.3	428	0	3	0	8.6	0.7
GAF	73	1	1	1.6	0.3	74	0	0	0	7.4	0.8
GFA	21	0	10	2.9	-0.4	22	0	5	0	7.4	-0.4
HLF	71	1	6	2.7	-0.4	71	0	3	0	7.9	0.7
HZM	20	0	5	2.8	0.8	20	0	0	0	7.3	-0.7
IBE	982	2	22	2.4	0.4	977	0	22	0	10.4	1.3
ICE	438	0	0	1.5	-0.1	437	0	2	1	8.5	0.8
KLM	1836	0	2	1.7	0.1	1858	0	3	1	8.7	1.6
LDA	119	0	9	2.0	-1.4	123	0	13	0	9.4	2.2
LDI	69	4	83	3.2	-0.6	71	0	8	0	10.3	2.4
LIB	63	0	5	2.2	0.9	63	2	6	0	9.8	0.7
LOT	215	0	2	2.3	-1.3	213	0	1	0	8.0	1.3
LTU	514	1	3	2.0	0.5	509	0	4	0	8.9	1.0
MPH	481	0	0	1.9	-0.9	478	0	1	0	8.9	0.9
NUG	254	0	1	2.3	-2.2	254	0	92	0	4.5	-1.5
NWA	1949	1	1	2.0	1.0	1976	0	2	1	8.7	1.0
PIA	24	0	0	1.6	-1.0	24	0	4	0	9.1	0.8
RJA	56	4	7	2.3	0.8	57	0	7	2	9.6	1.9
RRR	139	0	12	1.8	-0.1	140	1	17	0	9.6	2.7
SAB	57	0	0	1.4	-0.4	57	0	0	0	7.2	-0.3
SAS	1041	0	1	1.6	-0.2	1048	0	3	1	8.6	0.1

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
SIA	80	0	5	2.0	-0.7	84	0	7	0	9.9	1.8
SPP	27	0	7	2.4	0.1	27	0	15	0	16.2	2.5
SVA	109	0	2	1.6	-0.2	117	0	3	1	7.8	0.9
SWR	98	0	5	2.0	0.6	102	0	4	0	8.7	2.5
TAP	269	0	8	1.9	-0.2	271	0	8	0	9.3	0.9
TEJ	53	0	25	2.1	0.7	54	0	31	0	14.7	5.1
THY	31	0	3	2.5	0.3	32	0	19	0	12.4	4.4
TOW	123	0	2	2.2	-0.1	122	0	5	0	10.7	2.4
TWA	942	1	3	2.0	0.0	943	0	3	0	9.8	1.0
UAL	1665	0	2	2.1	-0.9	1701	0	2	0	8.8	1.3
ULE	128	2	3	1.9	0.2	122	0	3	0	9.8	0.9
UPS	556	1	15	1.5	-0.1	575	0	17	0	7.8	0.9
USA	144	0	0	1.5	-0.3	145	0	2	0	8.5	1.6
VIA	120	1	10	2.3	0.9	122	0	11	2	8.3	0.2
VIR	170	0	2	1.7	-0.3	170	0	4	0	10.1	3.3
WOA	69	1	3	1.5	0.6	71	0	4	0	7.3	-0.4
BA	7234	0	15	1.6	0.4	7232	0	26	0	7.3	1.3
KL	3817	0	18	1.5	0.5	3816	0	18	0	7.1	1.2
LH	372	0	8	1.8	0.1	370	0	8	1	8.1	1.5
MS	24	0	0	1.2	-0.5	24	0	4	0	9.9	3.3
M	165	2	100	3.1	0.3	171	1	100	0	16.2	2.7
N	315	1	3	2.5	0.7	332	0	6	1	10.0	0.9

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for radiosonde TEMPs.

Area monitored :0°N - 90°N, 100°W - 40°E

Standard of comparison :Background field from Bracknell global model.

Position :Average latitude and longitude for period.

Observation times :00, 12 UTC.

Level monitored :100 hPa.

Element monitored :GEOPOTENTIAL HEIGHT in metres

Parameters monitored :NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:% REJ :Percentage of observations rejected by quality control at level shown during period.

:SD :SD of difference of observations from background values at level shown excluding those with gross errors.

:BIAS :Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBBH	00	Z	100	1	0	0.0	23.0	23.0
DBLK	00	Z	100	4	0	16.9	19.6	10.0
DBLK	12	Z	100	9	0	32.0	44.0	30.1
EHOA	12	Z	100	15	0	16.1	28.1	23.1
FNO/PFY	00	Z	100	1	0	0.0	6.0	-6.0
FNOR	00	Z	100	11	0	15.2	17.4	8.5
FNOR	12	Z	100	11	0	20.6	20.9	3.5
FNOU	00	Z	100	14	0	20.1	22.8	10.6
FNOU	12	Z	100	9	0	21.8	21.8	-1.6
FNPH	00	Z	100	5	0	15.5	17.6	8.4
FNPH	12	Z	100	7	0	16.0	35.1	-31.3
FNR/PFY	00	Z	100	1	0	0.0	9.0	9.0
FNRS	00	Z	100	14	0	19.1	23.3	-13.4
FNRS	12	Z	100	13	0	14.2	21.2	-15.7
GACA	00	Z	100	27	0	14.2	15.9	7.3
GACA	12	Z	100	27	0	15.9	17.2	6.6
JBOA	00	Z	100	1	0	0.0	21.0	21.0
JCCX	00	Z	100	1	0	0.0	49.0	49.0
JDWX	00	Z	100	1	0	0.0	42.0	42.0
JIVB	00	Z	100	1	0	0.0	39.0	39.0
LDWR	00	Z	100	27	0	16.1	16.2	2.0
LDWR	12	Z	100	26	0	12.4	14.8	8.2
OXVH2	00	Z	100	14	0	12.3	14.1	6.9
OXVH2	12	Z	100	15	0	16.3	21.4	13.8
OXYH2	00	Z	100	18	0	33.3	33.3	0.9
OXYH2	12	Z	100	17	0	17.3	21.8	13.3
SHIPAF	00	Z	100	2	0	0.5	25.5	25.5
SHIPAF	12	Z	100	1	0	0.0	16.0	16.0
SHIPS	00	Z	100	6	0	25.0	25.4	4.8
SHIPS	12	Z	100	4	1	6.0	43.9	43.5
VLHJ	00	Z	100	1	0	0.0	67.0	67.0
V2EZ	00	Z	100	1	0	0.0	12.0	12.0
V2EZ	12	Z	100	2	0	3.5	16.9	16.5
V2GH	00	Z	100	8	0	31.2	32.3	-8.5
V2GH	12	Z	100	7	0	21.3	22.3	-6.6
V2LV	00	Z	100	25	0	17.8	18.4	4.5
V2LV	12	Z	100	24	0	22.0	27.7	16.9
V2LX	00	Z	100	20	0	30.6	31.8	8.8
V2LX	12	Z	100	16	0	17.3	23.0	15.1
WTEA	00	Z	100	1	0	0.0	14.0	-14.0
ZDLG	00	Z	100	1	0	0.0	29.0	29.0
ZDLG	12	Z	100	1	0	0.0	1.0	-1.0
03953	00	Z	100	28	0	10.6	17.7	14.3
03953	12	Z	100	29	0	12.5	15.4	9.0
04018	00	Z	100	30	0	17.7	24.2	16.5
04018	12	Z	100	28	0	15.4	31.1	27.1
04220	00	Z	100	30	0	18.4	22.7	13.2
04220	12	Z	100	29	0	14.7	25.0	20.2
04270	00	Z	100	28	0	18.5	24.0	15.4
04270	12	Z	100	27	0	16.5	23.6	16.9
04339	00	Z	100	28	0	14.3	22.8	17.8
04339	12	Z	100	30	0	18.0	25.7	18.3
04360	00	Z	100	29	0	18.1	26.7	19.6
04360	12	Z	100	30	0	14.6	29.1	25.2
08001	00	Z	100	26	1	26.7	32.1	17.8
08001	12	Z	100	24	0	12.9	21.5	17.2
08508	00	Z	100	26	0	24.1	24.5	-4.4
08508	12	Z	100	26	0	19.0	19.2	-2.4
08594	00	Z	100	1	0	0.0	54.0	-54.0
08594	12	Z	100	19	0	47.9	51.7	19.6

```
 WMO  OBS                  NUM   NUM
IDENT TIME ELM   LEV     OBS  GROSS      SD      RMS     BIAS

60020  00   Z    100     29     0      19.3     19.5     -2.7
60020  12   Z    100     30     0      25.3     26.1      6.4
71600  00   Z    100     27     0      12.7     29.9     27.0
71600  12   Z    100     30     0      17.0     24.2     17.2
72201  00   Z    100     26     0      52.2     52.2      0.3

72201  12   Z    100     28     0      23.5     30.7     19.6
72402  00   Z    100     25     0      27.2     36.6     24.6
72402  12   Z    100     26     0      23.3     34.6     25.5
74494  00   Z    100     24     0      24.7     30.8    -18.4
74494  12   Z    100     27     0      23.1     23.3     -3.4

78016  12   Z    100     25     0      17.3     17.3     -0.3
```

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
DBBH	00	Z	500	1	0	0.0	2.0	2.0
DBLK	00	Z	500	4	0	10.7	14.0	9.0
DBLK	12	Z	500	11	0	14.2	18.7	12.1
EHOA	12	Z	500	19	0	7.1	19.9	18.5
FNO/PFY	00	Z	500	1	0	0.0	18.0	-18.0
FNOR	00	Z	500	12	0	9.9	12.1	6.9
FNOR	12	Z	500	11	0	7.3	10.4	7.4
FNOU	00	Z	500	17	0	18.2	18.9	4.8
FNOU	12	Z	500	12	0	12.4	14.8	8.1
FNPH	00	Z	500	10	0	12.0	12.0	-0.6
FNPH	12	Z	500	8	0	13.0	13.4	-3.3
FNR/PFY	00	Z	500	1	0	0.0	6.0	-6.0
FNRS	00	Z	500	14	0	21.1	23.4	-10.1
FNRS	12	Z	500	13	0	13.2	13.4	-2.7
GACA	00	Z	500	27	0	9.4	10.9	5.5
GACA	12	Z	500	27	0	13.7	15.9	8.2
JBOA	00	Z	500	1	0	0.0	10.0	10.0
JCCX	00	Z	500	1	0	0.0	10.0	10.0
JDWX	00	Z	500	1	0	0.0	11.0	11.0
JIVB	00	Z	500	1	0	0.0	2.0	2.0
LDWR	00	Z	500	29	0	17.4	17.5	0.9
LDWR	12	Z	500	28	0	16.3	17.0	4.9
OXVH2	00	Z	500	17	0	13.9	13.9	0.2
OXVH2	12	Z	500	16	0	16.1	17.3	6.3
OXYH2	00	Z	500	18	0	22.3	22.4	2.2
OXYH2	12	Z	500	17	0	23.6	23.6	0.3
SHIPAF	00	Z	500	2	0	2.5	29.6	29.5
SHIPAF	12	Z	500	1	0	0.0	1.0	-1.0
SHIPS	00	Z	500	7	0	10.7	19.1	15.9
SHIPS	12	Z	500	5	1	8.1	11.7	8.4
VLHJ	00	Z	500	1	0	0.0	2.0	2.0
V2EZ	00	Z	500	1	0	0.0	4.0	4.0
V2EZ	12	Z	500	2	0	24.5	33.9	23.5
V2GH	00	Z	500	9	0	15.3	22.4	-16.3
V2GH	12	Z	500	7	0	8.9	12.0	-8.0
V2LV	00	Z	500	28	0	9.2	10.8	5.6
V2LV	12	Z	500	26	0	10.6	13.5	8.3
V2LX	00	Z	500	23	0	14.5	14.7	2.7
V2LX	12	Z	500	21	0	10.7	11.4	3.9
WTEA	00	Z	500	1	0	0.0	5.0	-5.0
ZDLG	00	Z	500	1	0	0.0	14.0	14.0
ZDLG	12	Z	500	1	0	0.0	6.0	6.0
0V2LV	00	Z	500	1	0	0.0	11.0	11.0
03953	00	Z	500	30	0	13.1	13.6	3.6
03953	12	Z	500	30	0	11.5	14.4	8.6
04018	00	Z	500	30	0	14.9	16.4	6.8
04018	12	Z	500	29	0	12.1	16.8	11.7
04220	00	Z	500	30	0	15.2	15.2	0.9
04220	12	Z	500	29	0	12.3	12.3	0.1
04270	00	Z	500	30	0	16.4	19.0	9.6
04270	12	Z	500	28	0	17.3	20.1	10.2
04339	00	Z	500	29	0	14.3	15.0	4.6
04339	12	Z	500	30	0	15.3	17.3	8.1
04360	00	Z	500	29	0	14.6	16.4	7.4
04360	12	Z	500	30	0	15.4	18.4	9.9
08001	00	Z	500	29	0	32.3	33.0	6.5
08001	12	Z	500	28	0	18.6	18.7	-1.6
08508	00	Z	500	27	0	18.7	19.0	-3.3
08508	12	Z	500	27	0	13.8	13.9	1.7
08594	00	Z	500	1	0	0.0	13.0	13.0

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
08594	12	Z	500	24	1	17.0	17.3	-3.0
60020	00	Z	500	25	0	11.6	13.6	7.0
60020	12	Z	500	30	0	20.0	23.4	12.1
71600	00	Z	500	27	0	11.2	16.2	11.8
71600	12	Z	500	30	0	14.0	16.3	8.4
72201	00	Z	500	27	0	19.4	20.2	5.6
72201	12	Z	500	29	0	8.7	12.3	8.7
72402	00	Z	500	28	0	15.0	19.7	12.8
72402	12	Z	500	29	0	14.2	16.2	7.7
74494	00	Z	500	28	0	13.5	13.5	-1.0
74494	12	Z	500	28	0	12.9	13.0	-2.0
78016	12	Z	500	24	0	10.5	10.8	2.4

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBBH	00	V	100	1	0	0	0.0	1.8	0.5
DBL	00	V	100	1	0	0	3.7	4.7	-9.1
DBLK	00	V	100	4	0	0	3.7	1.4	-2.2
DBLK	12	V	100	8	0	0	3.7	-2.9	0.5
EHOA	12	V	100	13	0	0	4.0	0.0	4.8
FNO/PFY	00	V	100	1	0	0	5.2	-5.1	-0.9
FNOR	00	V	100	11	0	0	5.2	1.1	-0.1
FNOR	12	V	100	11	0	0	3.2	0.1	2.0
FNOU	00	V	100	14	0	0	3.5	0.0	-1.4
FNOU	12	V	100	9	0	0	3.9	0.9	-0.5
FNPH	00	V	100	5	0	0	3.9	-1.6	3.8
FNPH	12	V	100	7	0	0	3.9	-0.9	2.5
FNR/PFY	00	V	100	1	0	0	3.9	3.9	6.4
FNRS	00	V	100	13	0	0	3.9	-1.4	-1.7
FNRS	12	V	100	13	0	0	2.8	-2.4	-1.1
GACA	00	V	100	27	0	0	3.5	0.3	-0.1
GACA	12	V	100	27	0	0	2.5	-0.5	0.1
JBOA	00	V	100	1	0	0	1.9	-3.4	-0.1
JCCX	00	V	100	1	0	0	3.1	-0.4	-3.8
JDWX	00	V	100	1	0	0	3.1	-5.6	5.1
JIVB	00	V	100	1	0	0	3.1	-1.5	3.2
LDWR	00	V	100	27	0	0	3.1	1.5	-0.7
LDWR	12	V	100	26	0	0	2.9	0.8	-1.8
OXVH2	00	V	100	14	0	0	2.9	1.1	-0.2
OXVH2	12	V	100	15	0	0	4.8	-1.6	-0.3
OXYH2	00	V	100	18	0	0	2.5	0.1	0.4
OXYH2	12	V	100	17	0	0	3.1	1.2	0.3
SHIPAF	00	V	100	1	0	0	3.5	-0.5	3.7
SHIPS	00	V	100	6	0	0	3.5	1.0	-1.1
SHIPS	12	V	100	4	0	0	3.5	0.3	1.8
VLHJ	00	V	100	1	0	100	3.5	1.6	-1.0
V2EZ	00	V	100	1	0	0	5.3	0.0	0.5
V2EZ	12	V	100	2	0	0	5.3	0.5	0.9
V2GH	00	V	100	8	0	0	5.3	-2.5	-0.1
V2GH	12	V	100	6	0	0	5.3	-2.9	0.4
V2LV	00	V	100	24	0	0	5.3	-0.1	1.1
V2LV	12	V	100	24	0	0	3.8	-1.7	0.8
V2LX	00	V	100	18	0	0	3.6	-0.8	-0.5
V2LX	12	V	100	16	0	0	2.3	-1.2	-0.1
WTEA	00	V	100	1	0	0	3.7	-0.9	-0.5
ZDLG	00	V	100	1	0	0	4.2	5.7	-10.5
ZDLG	12	V	100	1	0	100	4.2	-7.2	1.2
03953	00	V	100	27	0	0	2.6	-0.1	0.3
03953	12	V	100	27	0	0	2.2	-0.6	-1.0
04018	00	V	100	29	0	0	2.2	-0.7	0.0
04018	12	V	100	28	0	0	3.4	-1.4	0.2
04220	00	V	100	29	0	0	2.6	-0.5	-0.1
04220	12	V	100	28	0	0	2.9	-1.0	-1.4
04270	00	V	100	28	0	0	4.1	0.2	-0.3
04270	12	V	100	26	0	0	5.1	-0.9	-1.1
04339	00	V	100	27	0	0	3.8	-1.5	-1.0
04339	12	V	100	30	0	0	4.3	-0.6	-1.9
04360	00	V	100	28	0	0	4.0	-1.7	-0.8
04360	12	V	100	29	0	0	3.1	-0.9	-1.8
08001	00	V	100	26	0	0	3.1	0.5	-1.3
08001	12	V	100	23	0	0	3.4	-1.6	-1.5
08508	00	V	100	26	0	0	3.1	0.1	1.0
08508	12	V	100	26	0	0	2.9	-2.0	1.3
08594	00	V	100	1	0	0	3.4	2.1	2.0
08594	12	V	100	19	1	10	3.4	9.3	4.6

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
60020	00	V	100	29	0	0	4.6	0.8	1.3
60020	12	V	100	30	0	0	3.6	-2.1	2.2
71600	00	V	100	27	0	0	13.0	-2.3	0.7
71600	12	V	100	30	0	0	4.2	-2.6	0.0
72201	00	V	100	26	0	0	2.4	0.3	-0.2
72201	12	V	100	28	0	0	5.4	0.8	-2.3
72402	00	V	100	24	0	0	3.8	-2.3	0.0
72402	12	V	100	25	0	0	4.5	-0.9	0.1
74494	00	V	100	23	0	0	6.7	-3.8	-1.1
74494	12	V	100	24	0	0	5.2	-2.7	-0.1
78016	12	V	100	22	1	4	4.2	6.3	1.7

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: BRACKNELL
MONTH: Nov, 95

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from Bracknell global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
DBBH	00	V	500	1	0	0	0.0	-2.6	-2.1
DBLK	00	V	500	4	0	0	2.9	2.8	1.9
DBLK	12	V	500	11	0	0	2.9	-1.3	2.0
EHOA	12	V	500	19	0	0	3.7	-0.7	0.9
FNO/PFY	00	V	500	1	0	0	2.9	-2.6	5.5
FNOR	00	V	500	12	0	0	2.9	1.1	-0.4
FNOR	12	V	500	11	0	0	4.3	-1.0	-0.2
FNOU	00	V	500	17	0	0	2.8	1.5	-1.1
FNOU	12	V	500	12	0	0	5.9	0.3	-1.0
FNPH	00	V	500	8	0	0	4.4	-0.3	-1.3
FNPH	12	V	500	8	0	0	4.4	-0.4	1.8
FNR/PFY	00	V	500	1	0	0	4.4	2.4	1.3
FNRS	00	V	500	14	0	0	4.4	1.0	0.2
FNRS	12	V	500	12	0	0	4.0	-1.3	-0.7
GACA	00	V	500	27	0	0	3.0	-0.2	-0.2
GACA	12	V	500	27	0	0	4.5	-1.1	0.4
JBOA	00	V	500	1	0	0	4.0	-0.8	-1.6
JCCX	00	V	500	1	0	0	2.9	-0.9	1.8
JDWX	00	V	500	1	0	0	2.9	2.1	-3.9
JIVB	00	V	500	1	0	0	2.9	0.9	-0.8
LDWR	00	V	500	29	0	0	2.9	0.4	1.1
LDWR	12	V	500	27	0	0	4.5	-1.0	-1.8
OXVH2	00	V	500	17	0	0	3.7	1.2	0.2
OXVH2	12	V	500	16	0	0	4.0	0.5	-0.6
OXYH2	00	V	500	18	0	0	2.7	0.9	0.4
OXYH2	12	V	500	17	0	0	3.7	0.8	1.2
SHIPAF	00	V	500	2	0	0	4.0	0.2	1.1
SHIPAF	12	V	500	1	0	0	4.0	3.2	-1.1
SHIPS	00	V	500	7	0	0	4.0	2.1	-1.3
SHIPS	12	V	500	6	0	0	4.0	1.9	0.2
VLHJ	00	V	500	1	0	0	4.0	-0.7	-1.0
V2EZ	00	V	500	1	0	0	4.9	-0.8	-2.2
V2EZ	12	V	500	2	0	0	4.9	3.9	-5.1
V2GH	00	V	500	9	0	0	4.9	0.8	2.1
V2GH	12	V	500	7	0	0	4.9	0.7	-1.7
V2LV	00	V	500	27	0	0	4.9	1.2	-0.1
V2LV	12	V	500	27	0	0	3.1	0.6	0.7
V2LX	00	V	500	22	0	0	2.6	0.8	-0.4
V2LX	12	V	500	20	0	0	3.7	-1.3	-0.3
WTEA	00	V	500	1	0	0	2.5	1.0	1.5
ZDLG	00	V	500	1	0	0	5.0	-1.1	1.9
ZDLG	12	V	500	1	0	100	5.0	-2.9	1.5
0V2LV	00	V	500	1	0	0	7.5	0.3	0.8
03953	00	V	500	30	0	0	3.6	1.3	-1.1
03953	12	V	500	30	0	0	4.9	-0.1	-1.1
04018	00	V	500	30	0	0	4.7	0.1	0.6
04018	12	V	500	29	0	0	2.6	0.0	0.4
04220	00	V	500	30	0	0	3.0	-0.2	-0.6
04220	12	V	500	29	0	0	4.2	0.1	0.2
04270	00	V	500	30	0	0	5.1	1.7	0.2
04270	12	V	500	28	0	0	5.1	1.2	1.0
04339	00	V	500	28	0	0	3.9	0.1	0.9
04339	12	V	500	29	0	0	4.4	0.4	0.9
04360	00	V	500	29	0	0	5.2	0.9	-0.2
04360	12	V	500	30	0	0	3.7	0.0	-1.0
08001	00	V	500	28	0	0	2.9	1.2	0.5
08001	12	V	500	28	0	0	4.6	-0.2	0.6
08508	00	V	500	27	0	0	3.4	0.9	0.2
08508	12	V	500	27	0	0	5.3	-1.8	1.4
08594	00	V	500	1	0	0	4.9	-2.8	1.8

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
08594	12	V	500	23	0	0	4.9	0.3	-0.1
60020	00	V	500	24	0	0	3.0	0.4	-0.2
60020	12	V	500	30	0	0	3.3	-0.8	-0.4
71600	00	V	500	27	0	0	12.6	-0.4	0.7
71600	12	V	500	30	0	3	3.9	-0.2	1.0
72201	00	V	500	27	0	0	4.2	0.3	0.3
72201	12	V	500	28	0	3	2.6	-0.3	-0.1
72402	00	V	500	26	0	0	2.3	0.4	0.8
72402	12	V	500	29	0	0	2.8	0.1	-0.4
74494	00	V	500	28	0	0	10.1	-1.2	1.1
74494	12	V	500	27	0	0	2.5	-1.5	0.3
78016	12	V	500	24	0	0	2.9	2.4	0.5

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5,10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45